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=> display history full l1-


     FILE 'REGISTRY' ENTERED AT 17:39:11 ON 28 MAY 2003
                  E POLYETHYLENE OXIDE/CN
L1                1 SEA "POLYETHYLENE OXIDE"/CN
L2                1 SEA 25322-69-4
                    ACT EOEGPOPG/A
                    ---------
L3   (         9682)SEA 75-21-8/CRN
L4   (        21863)SEA 107-21-1/CRN
L5   (         9283)SEA 75-56-9/CRN
L6   (         8413)SEA 57-55-6/CRN
L7   (         7690)SEA (L3 OR L4) AND (L5 OR L6)
L8               11 SEA L7 AND 2/NC
                   ---------
                  E HEMATIN/CN
L9                1 SEA HEMATIN/CN


     FILE 'LCA' ENTERED AT 17:47:11 ON 28 MAY 2003
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                    OR POLYPROPOXYLAT? OR POLYETHOXYLAT? OR POLYOXYALKYL? OR
                    POLYOXYETHYL? OR POLYOXYPROPYL? OR POLYOXY(2A)(ETHYL? OR
                    PROPYL? OR ALKYL?) OR PEGYLAT? OR (PEG OR PPG)(A)YLAT?
                    OR (POLYPROPYLENE# OR POLYETHYLENE#)(2A)(GLYCOL# OR
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L12           87835 SEA L1 OR L2 OR L8
L13             808 SEA L9
L14              22 SEA L9/D OR L9/DP
L15               3 SEA L14 AND L12
L16               6 SEA L13 AND L12

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                 ETHOXYLAT? OR PROPOXYLAT? OR POLYALKOXYLAT? OR POLYETHOXY
                 LAT? OR POLYPROPOXYLAT? OR POLYOXY(2A)(ALKYL? OR ETHYL?
                 OR PROPYL?)
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                 # OR OXIDE#) OR PEO OR PPO

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L35           11 SEA L31 AND L23
L36           24 SEA L29 AND L23
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L17             STR
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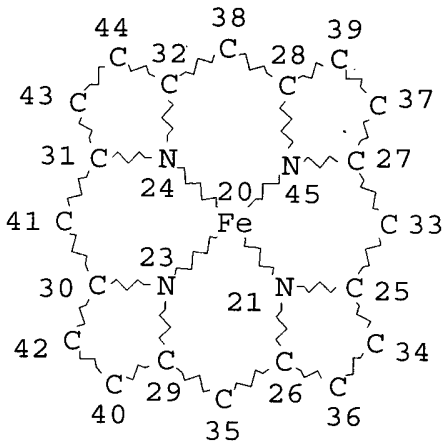

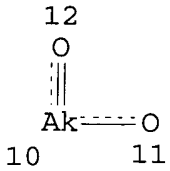

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NUMBER OF NODES IS 28

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SEARCH TIME: 00.00.01

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=> d l37 1-12 cbib abs hitstr hitind

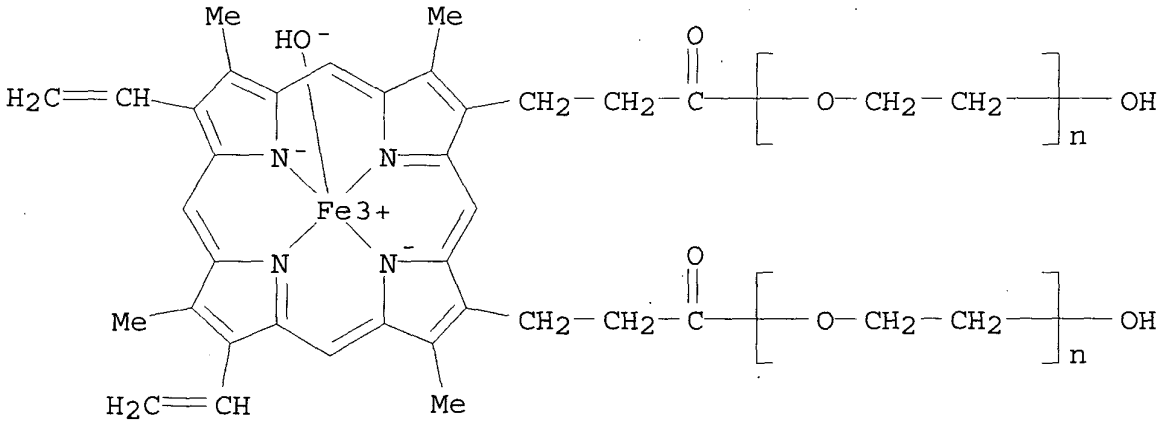
L37 ANSWER 1 OF 12 HCA COPYRIGHT 2003 ACS
138:14224 Polymerization of aromatic monomers using derivatives of hematin. Tripathy, Sukant; Tripathy, Susan; Samuelson, Lynne A.; Bruno, Ferdinando F.; Roy, Sucharita; Nagarajan, Ramaswamy; Kumar, Jayant; Ku, Bon-cheol; Lee, Soo-Hyoung (USA). U.S. Pat. Appl. Publ. US 2002183470 A1 20021205, 24 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-994998 20011127. PRIORITY: US 2000-PV253109 20001127.
AB Hematin, an hydroxyferriprotoporphyrin, is derivatized with one or

more non-proteinaceous amphipathic groups. The derivatized hematins can serve as a mimic of horseradish peroxidase in polymg. arom. monomers. These derivatized hematins are water sol. and recyclable and can also be used as catalysts in polymg. arom. monomers, and can exhibit significantly greater catalytic activity than underivatized hematin in acidic solns. In addn., the derivatized hematins, in combination with a template, reduce the amt. of branching during polymn., leading to a structurally more consistent product. An assembled hematin includes alternating layers of hematin and a polyelectrolyte, which are deposited on an elec. charged substrate. Assembled hematin can also be used to polymerize arom. monomers. For example, **hematin** was treated with **polyethylene glycol** in the presence of N,N'-carbonyldiimidazole,1,8-diazobicyclo[5.4.0]undec-7-ene and DMF to give a hematin diester deriv. which was used as a catalyst in the polymn. of aniline initiated by the addn. of H2O2. The polyaniline produced had a cond. of 0.2 S/cm and was redox reversible.

IT **477565-28-9P**
(polymn. catalyst; polymn. of arom. monomers using derivs. of hematin)

RN 477565-28-9 HCA

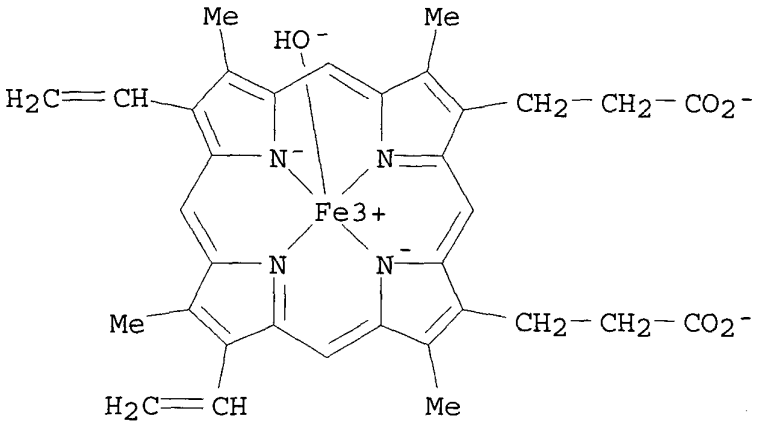
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, ester with (SP-5-13)-[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(2-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxyiron (2:1) (9CI) (CA INDEX NAME)



IT **15489-90-4**, Hematin **25322-68-3**, Polyethylene glycol
(reactant; in prepn. of hematin derivs. for polymn. of arom. monomers)

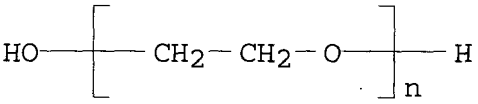
RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC ICM C08F002-00
ICS C08F004-00; C07D487-22; C07H021-04
NCL 526217000; 536023100; 540145000
CC 35-3 (Chemistry of Synthetic High Polymers)
IT **477565-28-9P**
(polymn. catalyst; polymn. of arom. monomers using derivs. of hematin)
IT **15489-90-4**, Hematin **25322-68-3**, Polyethylene glycol
(reactant; in prepn. of hematin derivs. for polymn. of arom. monomers)

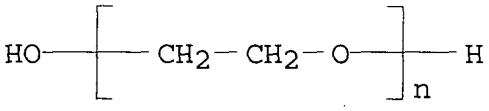
L37 ANSWER 2 OF 12 HCA COPYRIGHT 2003 ACS
137:169928 Biomimetic Synthesis of a Water Soluble Conducting Molecular Complex of Polyaniline and Lignosulfonate. Roy, Sucharita; Fortier, Jacqueline M.; Nagarajan, Ramaswamy; Tripathy, Sukant; Kumar, Jayant; Samuelson, Lynne A.; Bruno, Ferdinando F. (Center for Advanced Materials, Departments of Chemistry and Physics, University of Massachusetts, Lowell, MA, 01854, USA). Biomacromolecules, 3(5), 937-941 (English) 2002. CODEN: BOMAF6. ISSN: 1525-7797. Publisher: American Chemical Society.

AB A new biomimetic route for the synthesis of a conducting mol. complex of polyaniline (Pani) and a natural polyelectrolyte, lignosulfonate (LGS) is presented. A **poly(ethylene glycol)** modified **hematin** (**PEG-hematin**) was used to catalyze the polymn. of aniline in the presence of LGS to form a Pani/LGS complex. UV-vis, FTIR, cond. and TGA studies for the LGS-polyaniline complex indicate the presence of a thermally stable and elec. conductive form of polyaniline. Also the presence of LGS in this complex, an inexpensive byproduct from pulp processing, provides a unique combination of properties such as electronic cond., processability and biodegradability. The use of this conductive complex for corrosion protection is also proposed.

IT **25322-68-3DP**, **Poly(ethylene glycol)**, reaction product with **hematin**
(biomimetic synthesis of a water sol. conducting mol. complex of polyaniline and lignosulfonate)

RN 25322-68-3 HCA

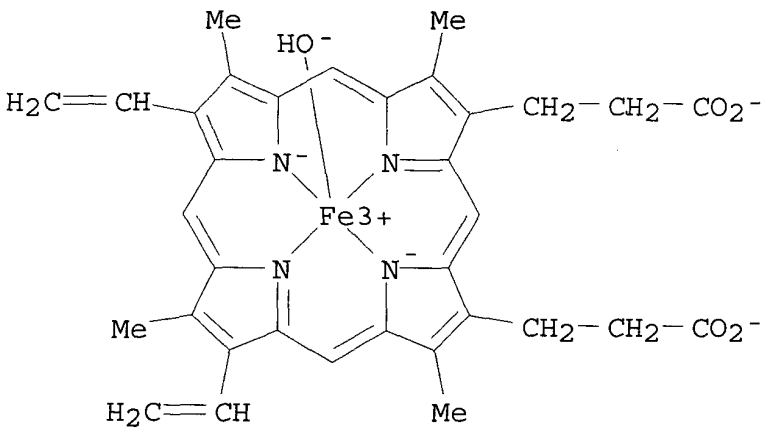
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **15489-90-4DP**, **Hematin**, reaction product with **polyethylene glycol**
(catalyst; biomimetic synthesis of a water sol. conducting mol. complex of polyaniline and lignosulfonate)

RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 35-7 (Chemistry of Synthetic High Polymers)

IT **Polyoxyalkylenes**, preparation
(reaction product with **hematin**; biomimetic synthesis of a water sol. conducting mol. complex of polyaniline and lignosulfonate)

IT **25322-68-3DP, Poly(ethylene glycol)**, reaction product with **hematin**
(biomimetic synthesis of a water sol. conducting mol. complex of polyaniline and lignosulfonate)

IT **15489-90-4DP, Hematin**, reaction product with **polyethylene glycol**
(catalyst; biomimetic synthesis of a water sol. conducting mol. complex of polyaniline and lignosulfonate)

L37 ANSWER 3 OF 12 HCA COPYRIGHT 2003 ACS

137:33641 Use of **hematin** for the polymerization of water-soluble conductive polyaniline and polyphenol. Bruno, Ferdinando F.; Nagarajan, Ramaswamy; Roy, Sucharita; Kumar, Jayant; Tripathy, Sukant; Samuelson, Lynne (Materials Science Team, Natick Soldier Center, U.S. Army Soldier and Biological, Chemical Command, Natick, MA, 01760, USA). Materials Research Society Symposium Proceedings, 660(Organic Electronic and Photonic Materials and Devices), JJ8.6/1-JJ8.6/6 (English) 2001. CODEN: MRSPDH. ISSN: 0272-9172. Publisher: Materials Research Society.

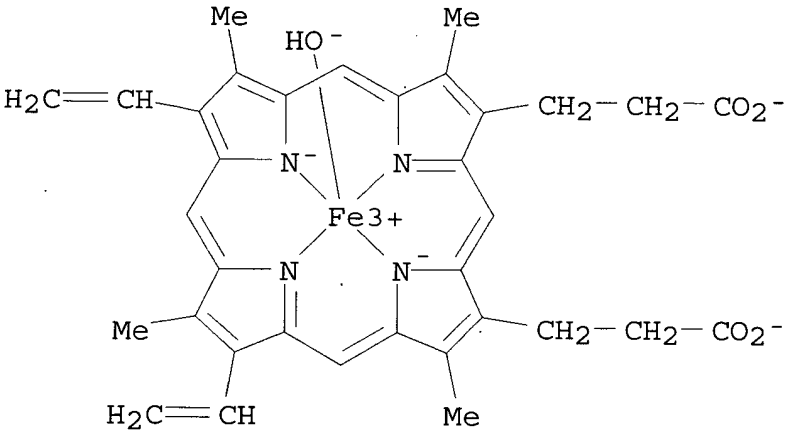
AB **Hematin** (hydroxyferriprotoporphyrin) is the stable, oxidized form of the free heme center of the enzyme, horseradish peroxidase (HRP). In comparison to HRP, **hematin** (HEM) is an inexpensive iron-porphyrin mol. that does not contain any amino acid residues and hence has significantly higher stability in a wider range of pH conditions. We report here the development of a

specifically modified **hematin** with tethered **polyethylene glycol** (**PEG**) chains for use as a biocatalyst in our template assisted, enzymic synthetic approach. This novel synthetic enzyme or syn-enzyme can serve as an effective alternative to HRP for the synthesis of polyaniline and polyphenol. The cond. and spectroscopy of polyaniline and polyphenol synthesized by this **PEG-hematin** in the presence of the template, polystyrene sulfonate is presented.

IT **15489-90-4**, **Hematin 15489-90-4D**, **Hematin**, reaction product with **polyethylene glycol 25322-68-3D**, **Polyethylene glycol**, reaction product with **Hematin**
(catalyst; in polymn. of water-sol. conductive polyaniline and polyphenol)

RN 15489-90-4 HCA

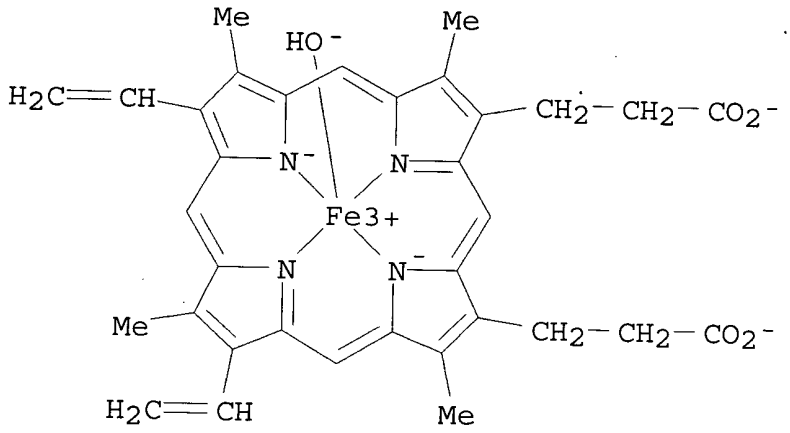
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H+

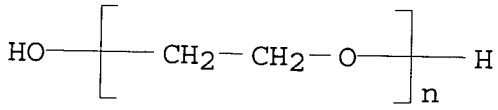
RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 7
ST **hematin** tethered **polyethylene glycol** biocatalyst polyaniline polyphenol prepn
IT Polymerization
(enzymic; use of **hematin** for polymn. of water-sol. conductive polyaniline and polyphenol)
IT **Polyoxyalkylenes**, uses
(reaction product with **Hematin**, catalyst; in polymn. of water-sol. conductive polyaniline and polyphenol)
IT Polymerization
(template; use of **hematin** for polymn. of water-sol. conductive polyaniline and polyphenol)
IT Conducting polymers
(use of **hematin** for polymn. of water-sol. conductive polyaniline and polyphenol)
IT Polymers, preparation
(water-sol.; use of **hematin** for polymn. of water-sol. conductive polyaniline and polyphenol)
IT **15489-90-4**, **Hematin 15489-90-4D**, **Hematin**, reaction product with **polyethylene**

glycol 25322-68-3D, Polyethylene glycol, reaction product with **Hematin**
(catalyst; in polymn. of water-sol. conductive polyaniline and polyphenol)

IT 50851-57-5
(use of **hematin** for polymn. of water-sol. conductive polyaniline and polyphenol)

IT 25233-30-1P, Aniline homopolymer 27073-41-2P, Phenol homopolymer
(use of **hematin** for polymn. of water-sol. conductive polyaniline and polyphenol)

L37 ANSWER 4 OF 12 HCA COPYRIGHT 2003 ACS

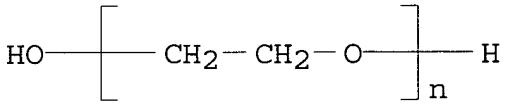
136:370333 Influence of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy. Sahoo, Sangrama K.; Nagarajan, Ramaswamy; Roy, Sucharita; Samuelson, Lynne A.; Kumar, Jayant; Cholli, Ashok L. (Center for Advanced Materials, Department of Chemistry and Physics, University of Massachusetts Lowell, Lowell, MA, 01854, USA). Polymeric Materials Science and Engineering, 86, 15-16 (English) 2002. CODEN: PMSEDG. ISSN: 0743-0515. Publisher: American Chemical Society.

AB Solid-state 13C and 15N CP/MAS NMR data along with variable temp. relaxation time measurements are sensitive to probe the influence of template and enzyme on the biocatalytic synthesis of conducting polyaniline.

IT **25322-68-3, Polyethylene glycol**
(**hematin** modified with, catalysts; effect of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy)

RN 25322-68-3 HCA

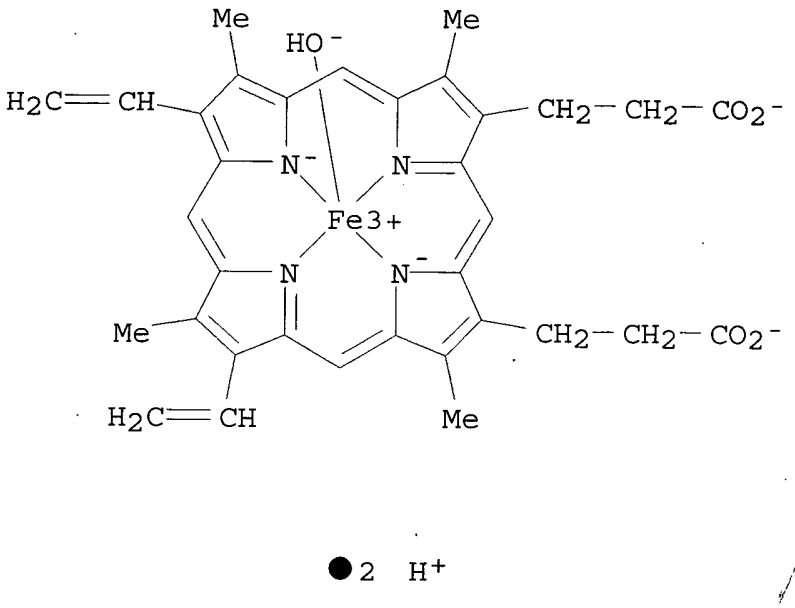
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **15489-90-4, Hematin**
(**polyethylene glycol**-modified, catalysts; effect of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy)

RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



CC 37-3 (Plastics Manufacture and Processing)

IT **Polyoxyalkylenes**, uses
(**hematin** modified with, catalysts; effect of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy)

IT Polymerization catalysts
(horseradish peroxidase and **polyethylene glycol -hematin**; effect of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy)

IT **25322-68-3**, **Polyethylene glycol**
(**hematin** modified with, catalysts; effect of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy)

IT **15489-90-4**, **Hematin**
(**polyethylene glycol**-modified, catalysts; effect of template and enzyme on biocatalytic synthesis of conducting polyaniline as studied by solid-state NMR spectroscopy)

L37 ANSWER 5 OF 12 HCA COPYRIGHT 2003 ACS

136:263546 Peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymerizations in water. Singh, Amarjit; Roy, Sucharita; Samuelson, Lynne; Bruno, Ferdinando; Nagarajan, Ramaswamy; Kumar, Jayant; John, Vijay; Kaplan, David L. (Department of Chemical & Biological Engineering and Bioengineering Center, Tufts University, Medford, MA, 02155, USA). Journal of Macromolecular Science, Pure and Applied Chemistry, A38(12), 1219-1230 (English) 2001. CODEN: JSPCE6. ISSN: 1060-1325. Publisher: Marcel Dekker, Inc..

AB Horseradish peroxidase-, **hematin**- and **pegylated-hematin** mediated polymn. of sodium styrene sulfonate and sodium acrylate in water is reported. Mol. wt. and yields were influenced by the concns. of hydrogen peroxide and 2,4-pentanedione. **Hematin** and **pegylated-hematin** were studied in lieu of peroxidase at pH 11.0 and 7.0 in aq. soln., resp. Polymer with a high mol. wt. (Mn = 223,520) was formed when the **pegylated-hematin** was used as the catalyst. The results demonstrate vinyl polymns. in an all aq. process in high yield and mol. wt. catalyzed by peroxidase as well as biomimetic catalysts.

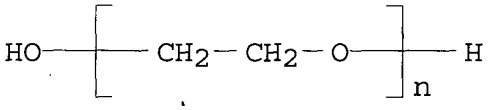
IT **405090-84-8**, **Pegylated hematin**
(peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

RN 405090-84-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)-, polymer with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

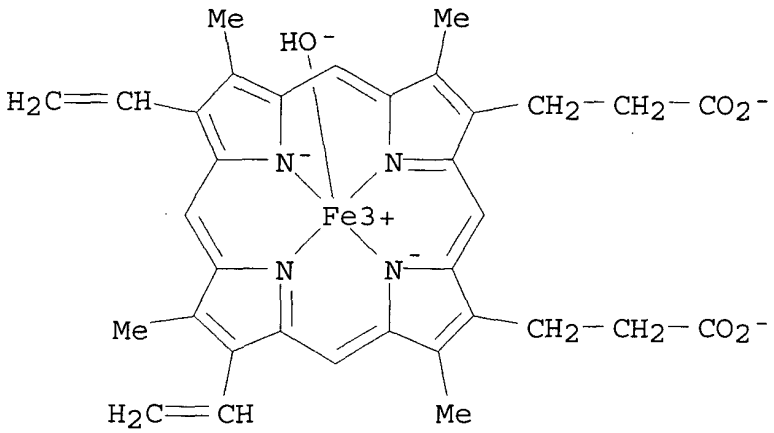
CM 1

CRN 25322-68-3
CMF (C2 H4 O)n H2 O
CCI PMS



CM 2

CRN 15489-90-4
CMF C34 H31 Fe N4 O5 . 2 H
CCI CCS



CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 7

IT Polymerization
Polymerization catalysts
(enzymic; peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT Molecular weight
Molecular weight distribution
(peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT 7732-18-5, Water, uses
(effect; peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT 9003-99-0, Peroxidase
(horseradish; peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT 7722-84-1, Hydrogen peroxide, reactions
(oxidant, effect; peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT 15489-90-4, **Hematin** 405090-84-8, **Pegylated hematin**
(peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT 25549-84-2P, Sodium acrylate homopolymer 25704-18-1P
(peroxidase, **hematin**, and **pegylated-hematin** catalyzed vinyl polymns. in water)

IT 123-54-6, 2,4-Pentanedione, reactions
(reducing agent, effect; peroxidase, **hematin**, and

pegylated-hematin catalyzed vinyl polymns. in water)

L37 ANSWER 6 OF 12 HCA COPYRIGHT 2003 ACS
136:131182 Enzymatic synthesis of molecular complexes of polyaniline with DNA and synthetic oligonucleotides: thermal and morphological characterization. Nagarajan, Ramaswamy; Roy, Sucharita; Kumar, Jayant; Tripathy, Sukant K.; Dolukhanyan, Tigran; Sung, Changmo; Bruno, Ferdinando; Samuelson, Lynne A. (Departments of Chemistry and Physics, Center for Advanced Materials, University of Massachusetts??Lowell, Lowell, MA, 01854, USA). Journal of Macromolecular Science, Pure and Applied Chemistry, A38(12), 1519-1537 (English) 2001. CODEN: JSPCE6. ISSN: 1060-1325. Publisher: Marcel Dekker, Inc..

AB The assembly of electronic and photonic materials on biomacromols. is of tremendous interest for the development of biofunctional nanocomplexes as well as highly selective biosensors. In the context of the use of elec. conducting polymers for sensing, polyaniline (Pani) and polypyrrole have received considerable interest because of their well-known elec. properties. Recently, we have reported an enzyme catalyzed synthetic procedure involving horseradish peroxidase (HRP) for the polymn. of aniline on a calf thymus DNA matrix. The mild reaction conditions involved in the synthesis have provided opportunities for the use of more delicate biomacromols. as templates. The complexation of Pani with DNA has been found to induce reversible changes in the secondary structure of DNA leading to the formation of an over-wound polymorph. The thermal characterization (melting behavior) of the DNA in the complex and the morphol. properties of the complex have provided corroborative evidence for the wrapping of Pani around the DNA matrix. Scanning probe and electron microscopy studies have indicated that the formation of Pani causes the DNA-Pani strands to agglomerate, presumably due to the neutralization of charge on the phosphate groups by the partially charged Pani. We also report the synthesis of Pani on a synthetic oligonucleotide (Poly[dA-dC].poly[dG-dT]). Demonstration of the use of a new biomimetic catalyst, **polyethylene glycol** modified **hematin** (PEG-**hematin**), in these reactions will also be presented. These results indicate that this biocatalytic synthetic approach is generic, versatile and can be adopted for both genomic and synthetic nucleic acids.

CC 9-16 (Biochemical Methods)

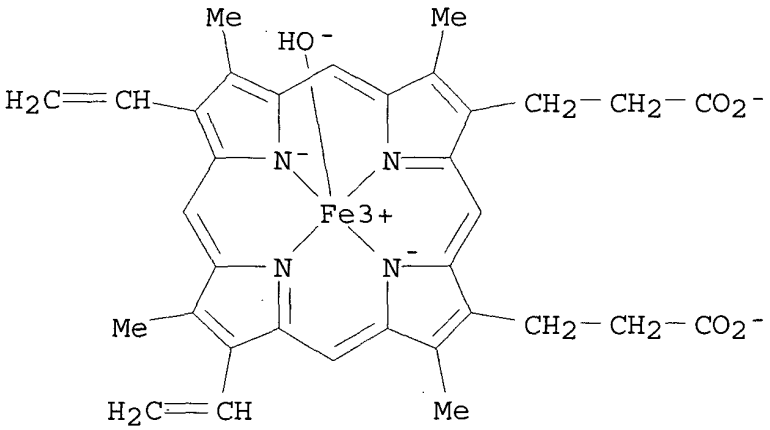
L37 ANSWER 7 OF 12 HCA COPYRIGHT 2003 ACS
135:289104 A hinged iron porphyrin catalyst tailored for water soluble electroactive polymer synthesis. Roy, Sucharita; Nagarajan, Ramaswamy; Bruno, Ferdinando; Tripathy, Sukant; Kumar, Jayant; Samuelson, Lynne (Departments of Chemistry and Physics, Center For Advanced Materials, University of Massachusetts Lowell, Lowell, MA, 01854, USA). Polymeric Materials Science and Engineering, 85, 202-203 (English) 2001. CODEN: PMSEDG. ISSN: 0743-0515. Publisher: American Chemical Society.

AB A pH-insensitive, effective catalyst of chem. modified **hematin** with tethered **polyethylene glycol** was developed as a biomimetic peroxide substitute. This resulted in a novel porphyrin conjugate bearing pendant polymer chains as a flexible and hydrophilic linker. It can effectively catalyze the polymn. of aniline and phenol monomers at a rate comparable to relative enzyme horse radish peroxide.

IT **15489-90-4D**, **Hematin**, reaction product with **PEG 25322-68-3D**, **PEG**, reaction product with **hematin**
(hinged iron porphyrin catalyst tailored for water sol. electroactive polymer synthesis)

RN 15489-90-4 HCA

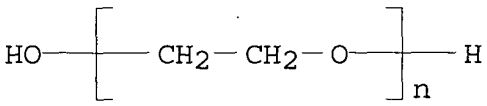
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 25322-68-3 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)

ST phenol aniline polymn catalyst **hematin** **polyethylene glycol** complex

IT **Polyoxyalkylenes**, uses
(reaction product with **hematin**; hinged iron porphyrin

catalyst tailored for water sol. electroactive polymer synthesis)

IT **15489-90-4D, Hematin**, reaction product with **PEG 25322-68-3D, PEG**, reaction product with **hematin**
(hinged iron porphyrin catalyst tailored for water sol. electroactive polymer synthesis)

L37 ANSWER 8 OF 12 HCA COPYRIGHT 2003 ACS

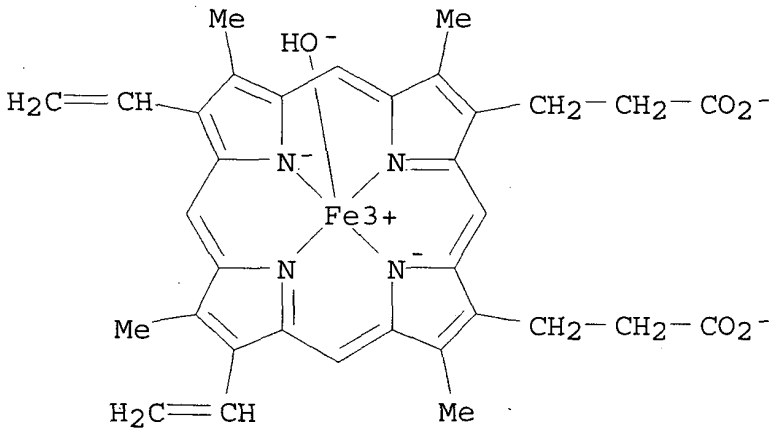
128:162418 Electrochemical separation utilizing metalloporphyrins and metallophthalocyanines. Przybycien, Todd M.; Lam, Philippe; Wnek, Gary E.; Elliker, Peter R. (Rennselaer Polytechnic Institute, USA). U.S. US 5711867 A 19980127, 19 pp. (English). CODEN: USXXAM. APPLICATION: US 1995-413877 19950328.

AB A method of sepg. a material from a liq. sample comprising: providing a system for material sepn. having a stationary phase having a metalloporphyrin coordination compd. or a metallophthalocyanine coordination compd. or a mixt. thereof; oxidizing or reducing the coordination compd., resp., to an oxidized or reduced state at which the material will bind to the compd.; applying a source of elec. potential to the system; and contacting the oxidized or reduced coordination compd. with a liq. sample contg. the material under conditions effective to sep. the material from the liq.

IT **15489-90-4**, Hematin
(biol. materials sepn. in liq. samples by electrochem. chromatog. using metalloporphyrins and metallophthalocyanines as stationary phases)

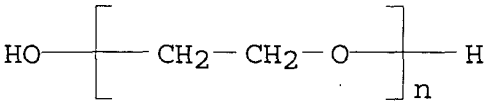
RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



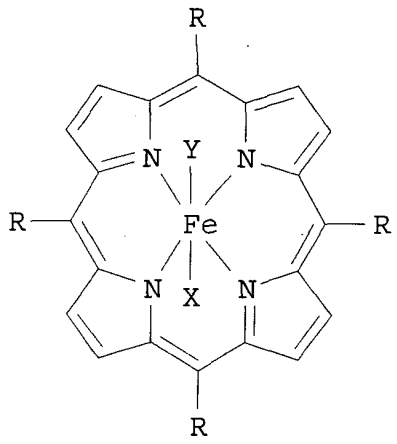
2 H^+

IT **25322-68-3**, Polyethylene glycol
(biol. materials sepn. in liq. samples by electrochem. chromatog. using metalloporphyrins and metallophthalocyanines as stationary phases and heme immobilization onto glassy carbon surface)
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)

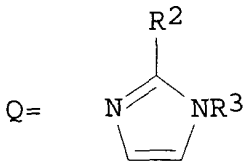


IC ICM B01D017-06
ICS B01D015-08; C25B011-00; B03C005-02
NCL 205688000
CC 80-4 (Organic Analytical Chemistry)
Section cross-reference(s): 3, 9, 29, 33, 34
IT 553-12-8, Protoporphyrin IX 7439-89-6D, Iron, metalloporphyrins and metallophthalocyanines, analysis 7439-96-5D, Manganese, metalloporphyrins and metallophthalocyanines, analysis 7440-02-0D, Nickel, metalloporphyrins and metallophthalocyanines, analysis 7440-18-8D, Ruthenium, metalloporphyrins and metallophthalocyanines, analysis 7440-32-6D, Titanium, metalloporphyrins and metallophthalocyanines, analysis 7440-48-4D, Cobalt, metalloporphyrins and metallophthalocyanines, analysis 7440-62-2D, Vanadium, metalloporphyrins and metallophthalocyanines, analysis 14285-56-4, Iron phthalocyanine chloride 14459-29-1, Hematoporphyrin IX **15489-90-4**, Hematin
(biol. materials sepn. in liq. samples by electrochem. chromatog. using metalloporphyrins and metallophthalocyanines as stationary phases)
IT 538-75-0, Dicyclohexylcarbodiimide 1122-58-3, DMAP 7440-44-0, Carbon, analysis 14875-96-8, Heme **25322-68-3**, Polyethylene glycol
(biol. materials sepn. in liq. samples by electrochem. chromatog. using metalloporphyrins and metallophthalocyanines as stationary phases and heme immobilization onto glassy carbon surface)

L37 ANSWER 9 OF 12 HCA COPYRIGHT 2003 ACS
123:17990 Oxygen-transporting aqueous emulsions containing iron-porphyrin complexes. Tsuchida, Hidetoshi; Nishide, Hiroyuki; Komatsu, Teruyuki; Matsubuchi, Eriko (Seisan Kaihatsu Kagaku Kenkyus, Japan; Nippon Oils & Fats Co Ltd). Jpn. Kokai Tokkyo Koho JP 06263641 A2 19940920 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-137563 19920501.
GI



I



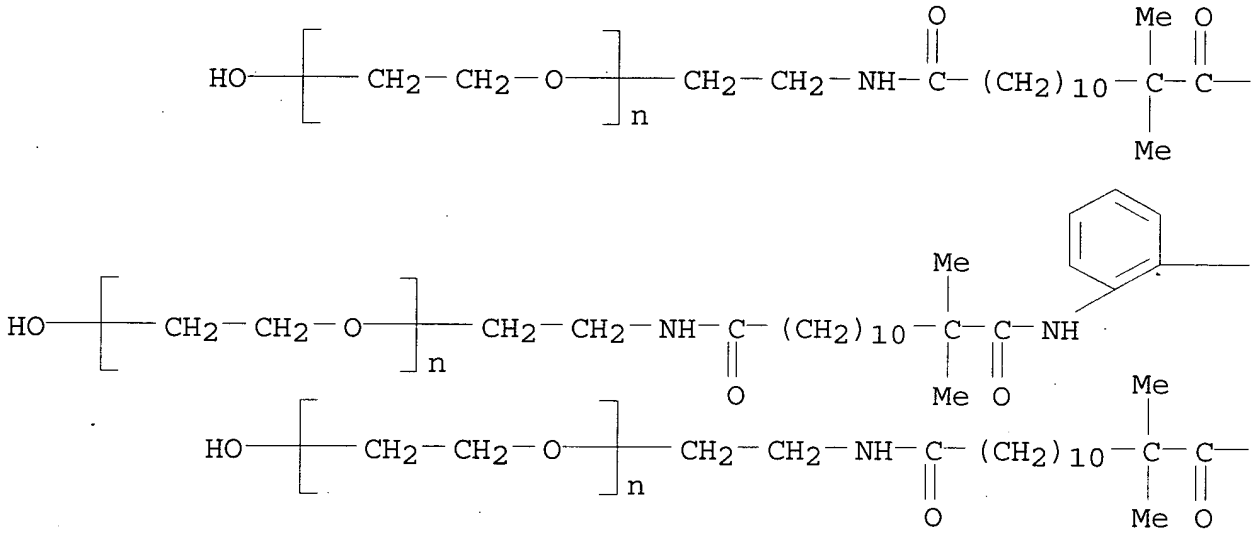
AB The title emulsions, useful for artificial blood, artificial lung, and organ preservation, contain oily microspheres coated with Fe-porphyrin complexes I (R = C6H4NHCOCMe2(CH2)n R' - 2; n = 1-18; R1 = hydrophilic substituent; X, Y = Q; R2 = H, C1-3 alkyl; R3 = alkyl, hydrophobic substituent; when R2 = H, then X = Y; when R2 .noteq. H; then Y = none). Meso-tetra[.alpha.,.alpha.,.alpha.,.alpha.-o-[20-[(2'-trimethylammonioethoxy)phosphonatoxy]-2,2-dimethyleicosanamido]phenyl]porphinatoion(III), 1-laurylimidazole, and trioctanoylglyceride were ultrasonicated in a phosphate buffer to manuf. microspheres, which were stable at room temp. for several mo and reversibly absorbed and released O with half life of the O complex .gtoreq.12 h.

IT **160669-51-2P**
(oxygen-transporting aq. emulsions contg. oils microencapsulated with iron-porphyrin complexes for medical uses)

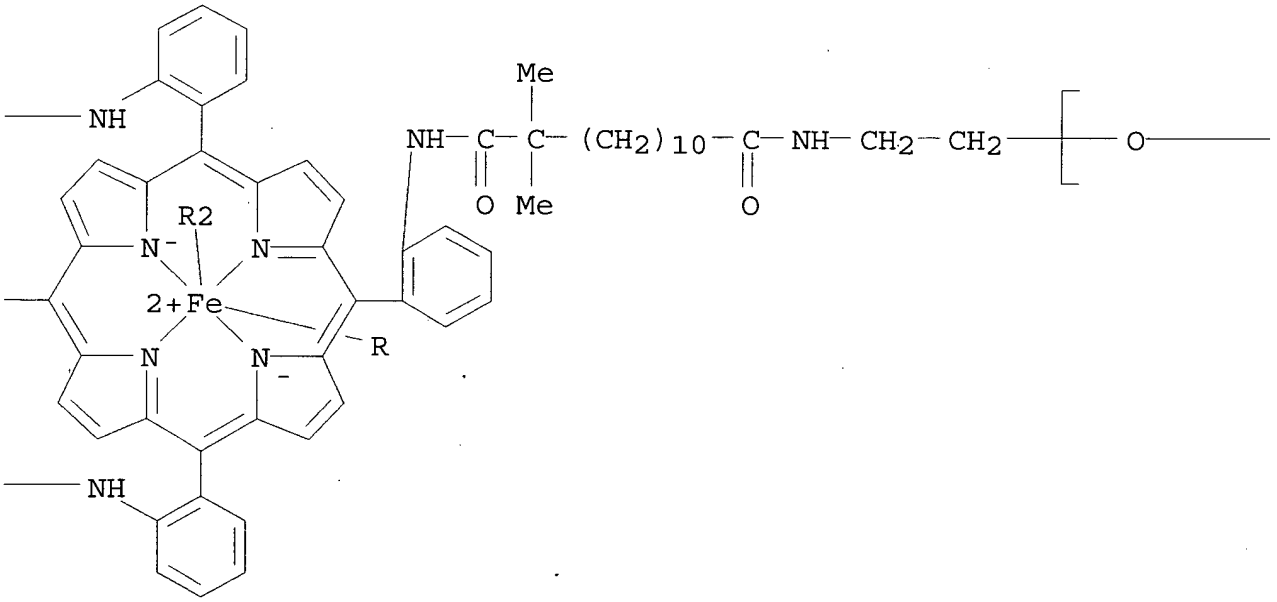
RN 160669-51-2 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, ether with stereoisomer of bis[2-methyl-1-(triphenylmethyl)-1H-imidazole-N3][[N1,N1',N1'', N1'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[2,2-dimethyl-N13-(2-hydroxyethyl)tridecanediamidato]](2-)-N21,N22,N23,N24]iron (4:1) (9CI) (CA INDEX NAME)

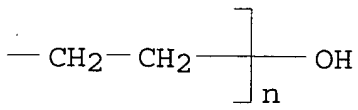
PAGE 1-A



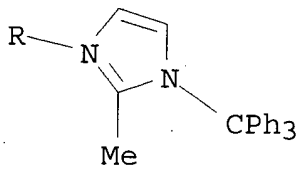
PAGE 1-B

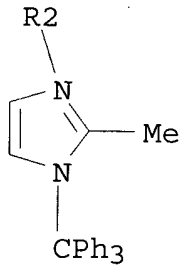


PAGE 1-C



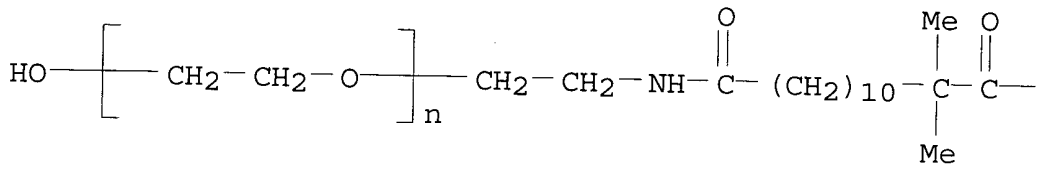
PAGE 2-A



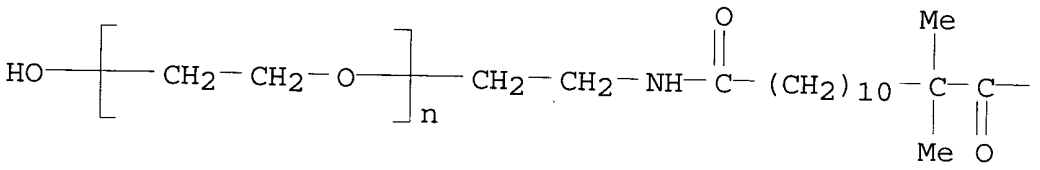


IT **160824-74-8P**
(reaction of imidazoles with iron-porphyrin complexes in manuf. of oxygen-transporting microspheres)
RN 160824-74-8 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, ether with (SP-4-1)-[[N1,N1',N1'',N1'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[N13-(2-hydroxyethyl)-2,2-dimethyltridecanediamidato]](2-)-N21,N22,N23,N24]iron(1+) (4:1) (9CI) (CA INDEX NAME)

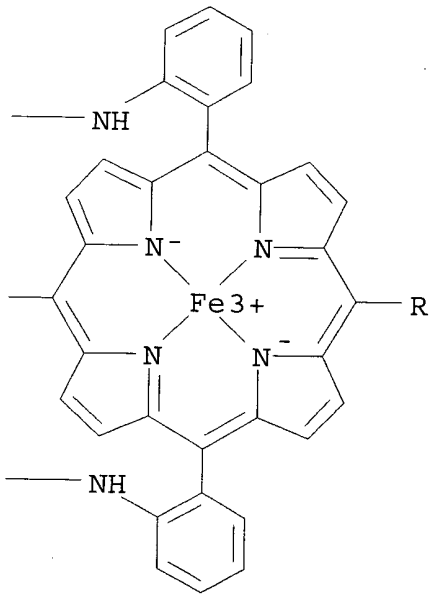
PAGE 1-A



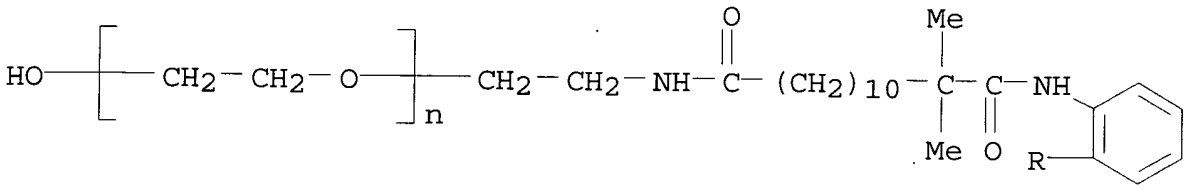
R2—

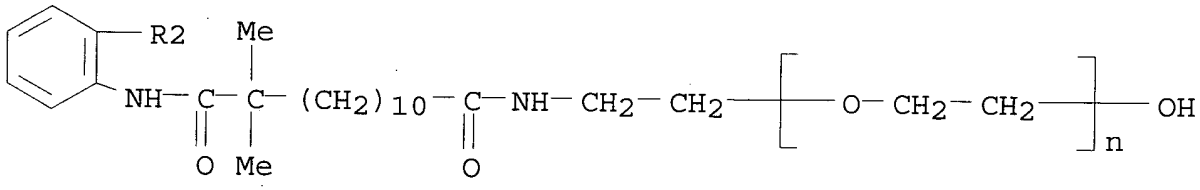


PAGE 1-B



PAGE 2-A





IC ICM A61K031-555
ICS A01N001-00; A61K009-107; A61K031-685; B01D053-14
ICA C07D487-22
CC 63-8 (Pharmaceuticals)
IT 160669-50-1P **160669-51-2P** 160669-52-3P 160700-52-7P
(oxygen-transporting aq. emulsions contg. oils microencapsulated with iron-porphyrin complexes for medical uses)
IT 4303-67-7P, 1-Laurylimidazole 107079-67-4P 160700-50-5P
160824-74-8P
(reaction of imidazoles with iron-porphyrin complexes in manuf. of oxygen-transporting microspheres)

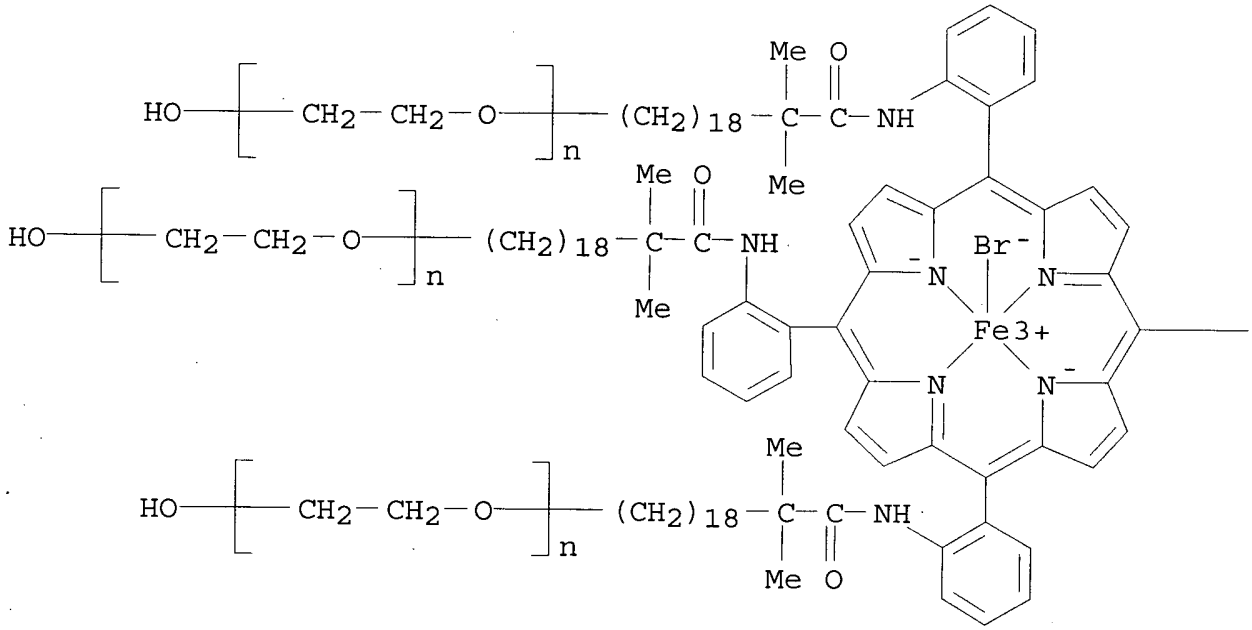
L37 ANSWER 10 OF 12 HCA COPYRIGHT 2003 ACS
108:67853 Iron-tetraphenylporphine complex with ether-bonded hydrophylic groups. Matsushita, Etsuo; Hasegawa, Etsuo; Ejima, Kiyoshi; Tsuchida, Hidetoshi (Japan). Jpn. Kokai Tokkyo Koho JP 62108893 A2 19870520 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-246992 19851106.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

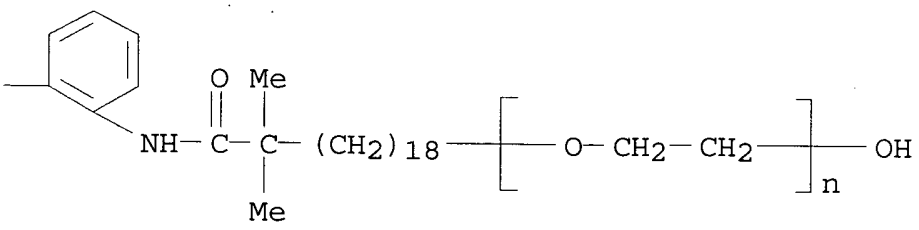
AB The title complex comprises I (n = 10-20; X = halogen; and R = nonionic hydrophylic group). Optionally, R may be (CH2CH2O)mH (m = 1-10), CH2C(OH)HCH2OH, or II. The complex can be uniformly dispersion-solubilized in H2O to form a micelle or liposome, and adsorb O and CO. Addnl., the complex may be useful as an O addn. catalyst.
IT **112488-70-7P 112510-51-7P**
(prepn. of)

RN 112488-70-7 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, ether with bromo[[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[20-hydroxy-2,2-dimethyleicosanamidato]](2-)-N21,N22,N23,N24]iron (4:1), (SP-5-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

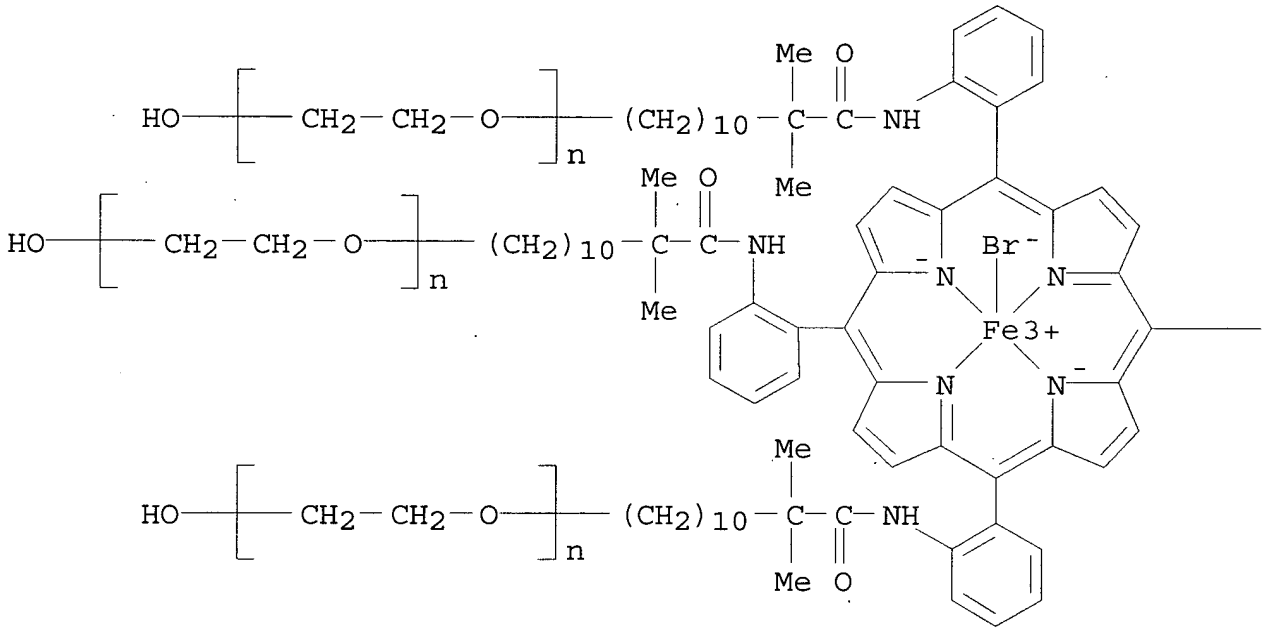


PAGE 1-B

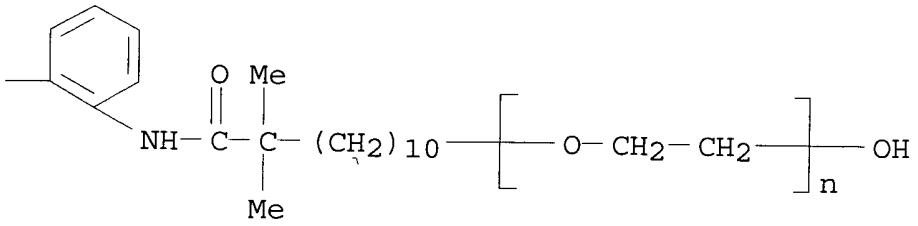


RN 112510-51-7 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, ether with bromo[[N,N',N'',N'''-(21H,23H-porphine-5,10,15,20-tetrayltetra-2,1-phenylene)tetrakis[12-hydroxy-2,2-dimethyldodecanamidato]](2-)-N21,N22,N23,N24]iron (4:1), (SP-5-12)- (9CI) (CA INDEX NAME)

PAGE 1-A

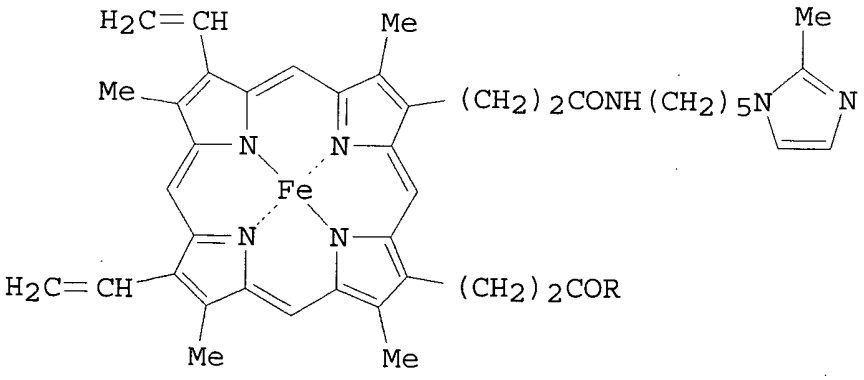


PAGE 1-B



IC ICM C07F015-02
ICS B01J020-26; C01B013-02
CC 78-7 (Inorganic Chemicals and Reactions)
IT 917-23-7DP, Tetraphenylporphine, tetrakisalkylamide deriv., iron complexes 7439-89-6DP, complexes with substituted porphines 112470-17-4P 112470-18-5P **112488-70-7P** 112489-11-9P **112510-51-7P**
(prepn. of)

L37 ANSWER 11 OF 12 HCA COPYRIGHT 2003 ACS
97:215859 The preparation of protoheme mono-N-[5-(2-methyl-1-imidazolyl)pentyl]amide and its oxygenation. Tsuchida, Eishun; Nishide, Hiroyuki; Sato, Yoshinori; Kaneda, Manabu (Dep. Polym. Chem., Waseda Univ., Tokyo, 160, Japan). Bulletin of the Chemical Society of Japan, 55(6), 1890-5 (English) 1982. CODEN: BCSJA8. ISSN: 0009-2673.
GI



I

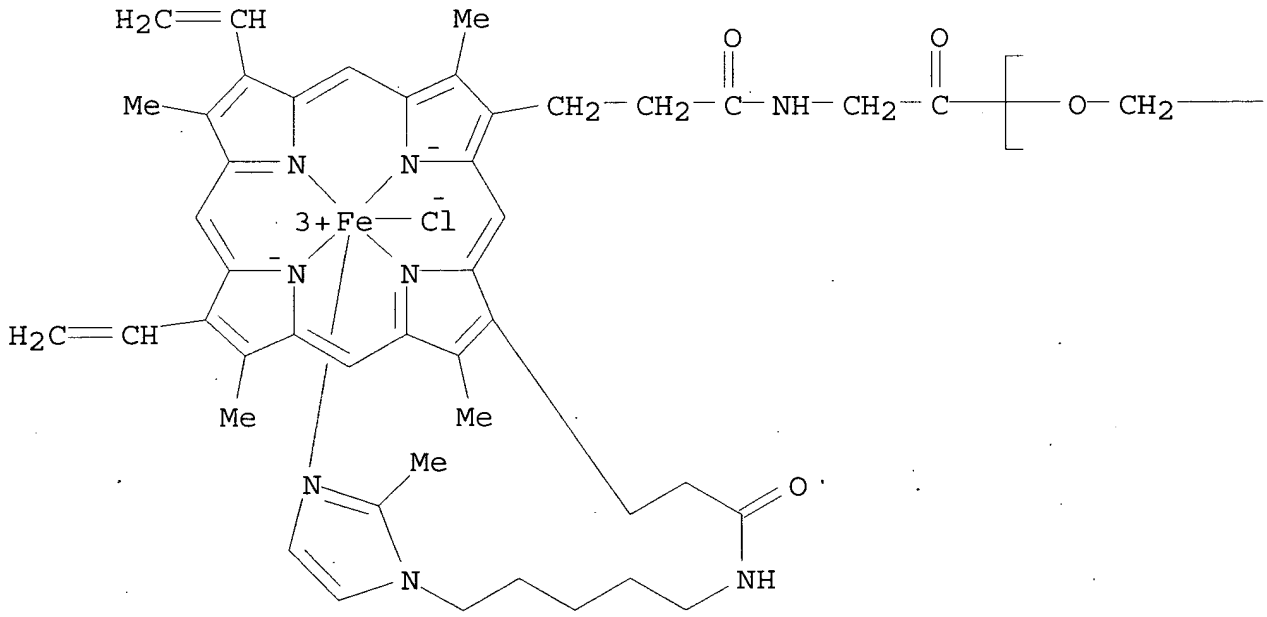
AB Iron(II) protoporphyrin IX N-[5-(2-methyl-1-imidazolyl)pentyl]amide Et ester I (R = EtO) and its derivs. I [R = HO, Gly-(OCH2CH2)nOH, 5-(2-methyl-1-imidazolyl)pentylamino] were prepd. They predominantly form pentacoordinate heme complexes in org. and aq. solns. based on their 2-methylimidazole-ligand and spacer N-pentylamide groups. Oxygen adducts of I were rapidly formed on exposure to oxygen in DMF at -30.degree. and their life-times were more than 30 min.

IT **83503-75-7P**
(prepn. and oxygenation of)

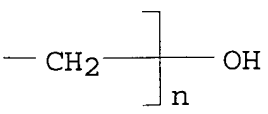
RN 83503-75-7 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydrogen-.omega.-hydroxy-, ester with chloro[N-[3-[7,12-diethenyl-3,8,13,17-tetramethyl-18-[3-[[5-(2-methyl-1H-imidazol-1-yl)pentyl]amino]-3-oxopropyl]-21H,23H-porphin-2-yl]-1-oxopropyl]glycinato(3-)]iron (1:1), (OC-6-24)- (9CI) (CA INDEX NAME)

PAGE 1-A



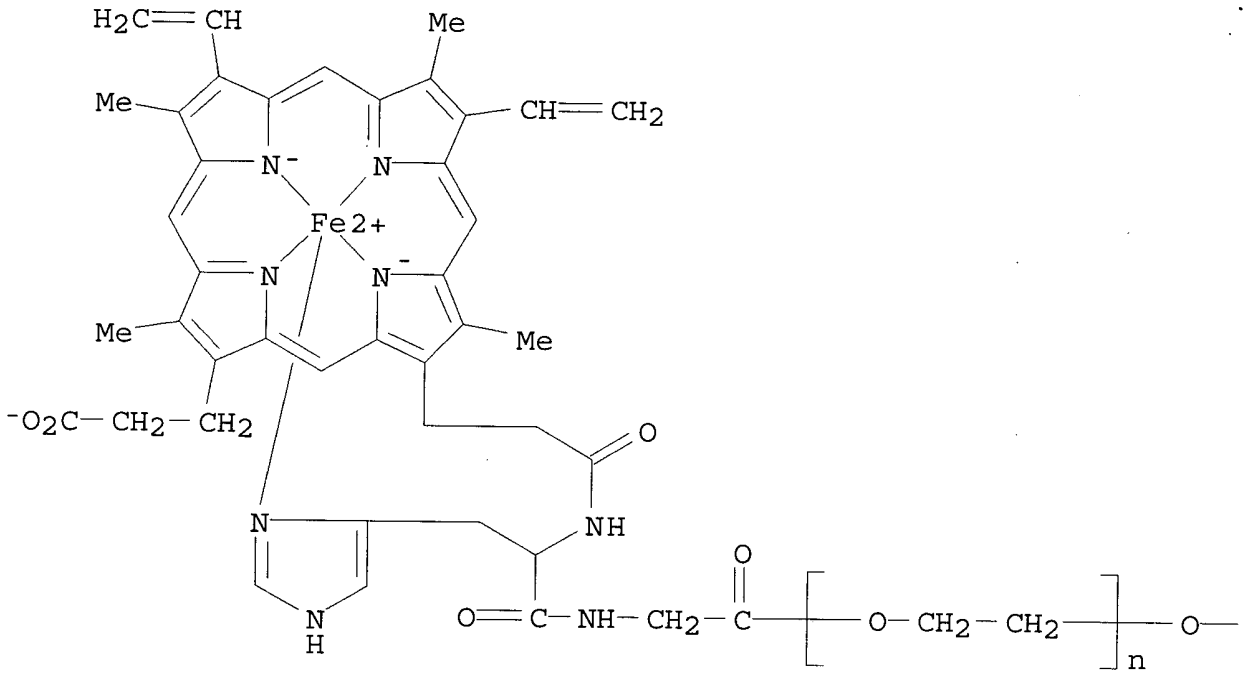
PAGE 1-B



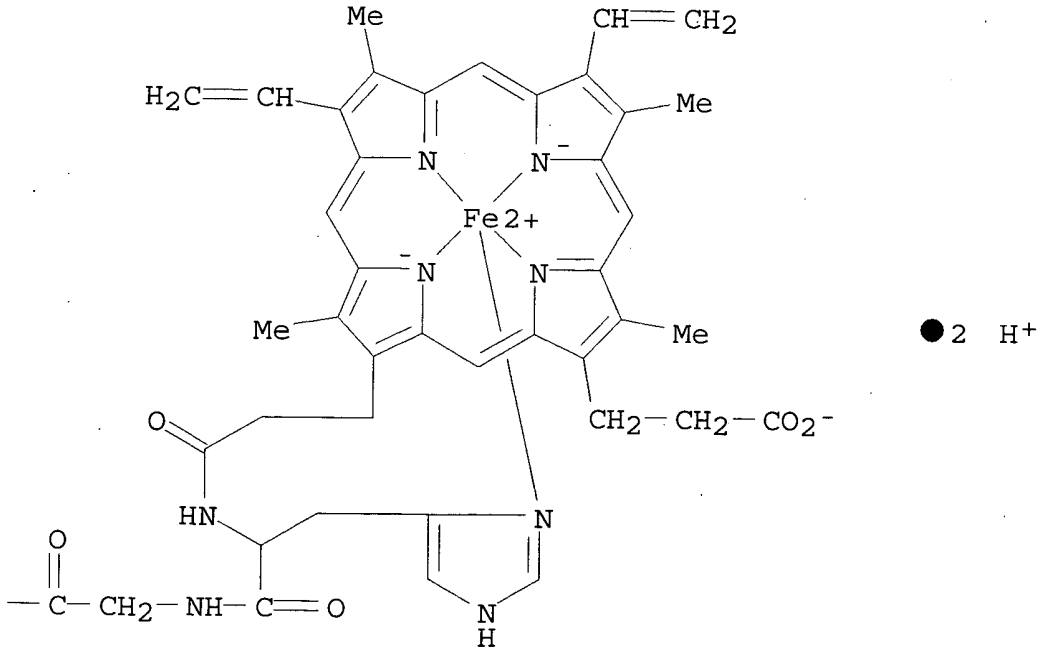
CC 26-7 (Biomolecules and Their Synthetic Analogs)
IT 83503-74-6P **83503-75-7P** 83514-92-5P 83686-61-7P
(prepn. and oxygenation of)

L37 ANSWER 12 OF 12 HCA COPYRIGHT 2003 ACS
86:145890 Synthetic hemopolymers for reversible uptake of molecular oxygen. Bayer, Ernst; Holzbach, Gunter (Inst. Org. Chem., Univ. Tuebingen, Tuebingen, Fed. Rep. Ger.). Angewandte Chemie, 89(2), 120-2 (German) 1977. CODEN: ANCEAD. ISSN: 0044-8249.
AB Heme-contg. functionalized polymers are described which can bind O reversibly and can therefore be used in blood substitutes. These polymers show good H2O soly., imitate the distal imidazole group of hemoglobin and myoglobin, and make difficult the irreversible oxidn. of the O complex. Polyvinylpyrrolidone [9003-39-8], polyethylene glycol bis(glycyl)ester [55952-30-2], and a polyurethane [61463-27-2] prepd. from polyethylene glycol and a diisocyanate were used as the base polymers. Di-(tert-butyl)oxycarbonylhistidine [17791-52-5] was coupled with the free amino groups of the polymers with dicyclohexylcarbodiimide by the method for liq. phase peptide synthesis described by E. Bayer and M. Mutter (1974). The histidine aminoprotective group was cleaved with 1:1 trifluoroacetic acid-CH2Cl2 mixt., and the amino group was coupled with one of the carboxy groups of heme. The resultant polymers, polyethylene glycol bis(glycyl-histidyl-hemin) [**61477-34-7**] and the urethane polymer hemin deriv. [61483-81-6] contained 73 and 100% heme, resp., based on the no. of amino groups in the starting polymer. The Fe in both polymers was present as Fe(III) and had to be reduced with Na dithionite before oxygenation.
IT **61477-34-7P 61477-35-8P**
(prepn. of, as blood substitute)
RN 61477-34-7 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, diester with hydrogen [N-[N-[3-[18-(2-carboxyethyl)-7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphin-2-yl]-1-oxopropyl]-L-histidyl]glycinato(3-)]ferrate(1-) (9CI) (CA INDEX NAME)

PAGE 1-A

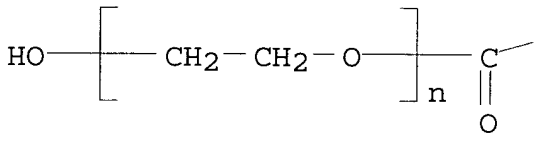


PAGE 1-B

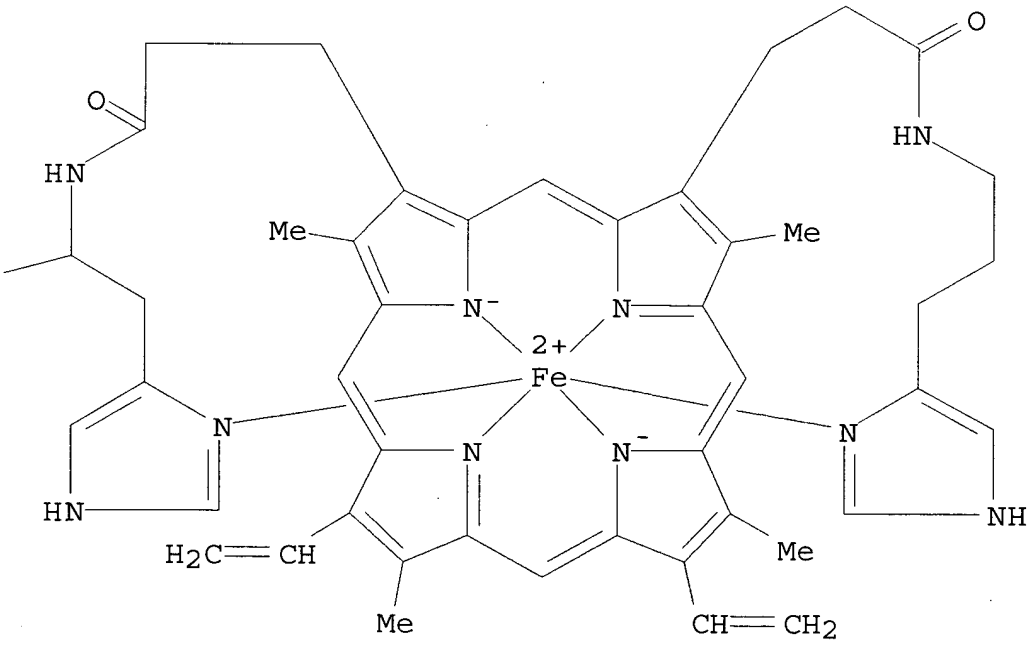


RN 61477-35-8 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-, monoester with [N-[3-[7,12-diethenyl-18-[3-[[3-(1H-imidazol-4-yl)propyl]amino]-3-oxopropyl]-3,8,13,17-tetramethyl-21H,23H-porphin-2-yl]-1-oxopropyl]-L-histidinato(2-)]iron (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



CC 63-7 (Pharmaceuticals)

IT **61477-34-7P 61477-35-8P** 61483-81-6P
(prepn. of, as blood substitute)

=> d l38 1-8 cbib abs hitstr hitind

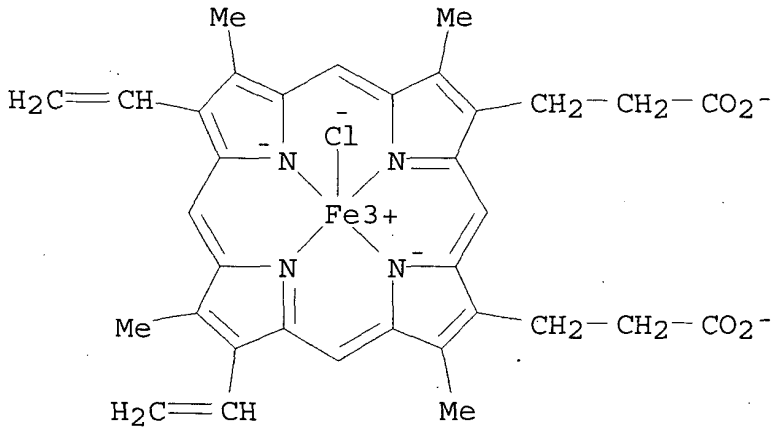
L38 ANSWER 1 OF 8 HCA COPYRIGHT 2003 ACS
133:151117 Polymers having chemically modified branches, polyfunctional polymers therefrom, and their manufacture. Sawatari, Chie; Nakata, Tokumi; Yagi, Tatsuhiko (Japan). Jpn. Kokai Tokkyo Koho JP 2000219707 A2 20000808, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-137135 19990518. PRIORITY: JP 1998-263894 19980903; JP 1998-335242 19981126.

AB Unsatd.-branched polymers are manufd. by irradiating polymers with 1,3-butadiene or its derivs. The polyfunctional polymers are manufd. by treating the unsatd.-branched polymers with compds. having functional groups and further treated with proteins, nucleic acids, saccharose, **polyethylene glycol**, or dendrimers. Thus, a polyethylene film and 1,3-butadiene were placed in a tube and .gamma.-irradiated to give butadiene-branched polyethylene, showing branch content 1.3 unit/100 methylene-unit.

IT **16009-13-5DP**, Hemin, thionyl chloride-modified, compds. with modified polyethylene or polypropylene **25322-68-3DP**, **Polyethylene glycol**, reaction products with modified polyethylene dendrimers
(manuf. of polymers having butadiene branches for polyfunctional polymers)

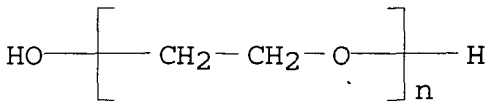
RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



2 H^+

RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC ICM C08F008-40
ICS C08F008-00; C08F008-08; C08F008-18; C08F008-30
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 6
IT **Polyoxyalkylenes**, preparation
(reaction products with modified polyethylene dendrimers; manuf. of polymers having butadiene branches for polyfunctional polymers)
IT 79-21-0DP, Peracetic acid, reaction products with butadiene-branched polymers 93-59-4DP, Perbenzoic acid, reaction products with butadiene-branched polyesters 96-33-3DP, Methyl acrylate, reaction products with modified polyethylene 106-99-0DP, 1,3-Butadiene, reaction products with polyolefins, polyesters. polyamides, **polyoxyalkylene**, and polycarbonates, preparation 107-15-3DP, Ethylenediamine, reaction products with modified butadiene branched-polymers 154-23-4DP, Catechin, reaction products with modified polyethylene dendrimers 7719-09-7DP, Thionyl chloride, reaction products with modified polyethylene dendrimers or hemin 7726-95-6DP, Bromine, reaction products with butadiene-branched polymers, preparation 9001-57-4DP, Invertase, compds. with modified polystyrene 9002-88-4DP, Polyethylene, reaction products with butadiene, peracetic acid or bromine, and ethylenediamine, compds. with hemin and glucose isomerase 9002-88-4DP, Polyethylene, reaction products with butadiene, peracetic acid, ethylenediamine, Me acrylate, thionyl chloride, and **polyethylene glycol**, catechin, or chitosan 9003-07-0DP, Polypropylene, reaction products with butadiene, peracetic acid and ethylenediamine, compds. with hemin and glucose isomerase 9003-53-6DP, Polystyrene, reaction products with butadiene, peracetic acid or bromine, and ethylenediamine, compds. with invertase 9012-76-4DP, Chitosan, reaction products with modified polyethylene dendrimers 9055-00-9DP, Glucose isomerase, compds. with modified polyethylene or polypropylene 13122-71-9DP, Perbutyric acid, reaction products with butadiene-branched polyesters **16009-13-5DP**, Hemin, thionyl chloride-modified, compds. with modified polyethylene or polypropylene 25038-59-9DP, Polyethylene terephthalate, reaction products with butadiene and perbenzoic acid or perbutyric acid **25322-68-3DP**, **Polyethylene glycol**, reaction products with modified polyethylene dendrimers
(manuf. of polymers having butadiene branches for polyfunctional polymers)

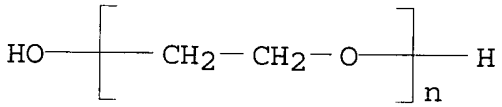
L38 ANSWER 2 OF 8 HCA COPYRIGHT 2003 ACS
130:220040 Electron transfer reaction of myoglobin containing DNA-modified Hemin in **PEO** oligomers. Muneyasu, Kuniaki; Kawahara, Natsue Y.; Ohno, Hiroyuki (Department of Biotechnology, Tokyo University of Agriculture and Technology, Koganei, Tokyo, 184, Japan). Solid State Ionics, 113-115, 167-171 (English) 1998. CODEN: SSIOD3. ISSN: 0167-2738. Publisher: Elsevier Science B.V..

AB Double-stranded short-chain DNA was covalently bound to hemin, and was incorporated into the heme pocket of apo-myoglobin. Then this was further modified with activated **poly(ethylene oxide)**. Thus, prepd. **PEO**-Mb(DNA) was sol. and electrochem. redox active in **PEO** oligomers. Enhancement of the electron transfer reaction was not obsd. for the mixt. of **PEO**-Mb and long-chain DNA. However, the charge of **PEO**-Mb(DNA) was found to be larger than that of **PEO** -Mb in **PEO** oligomer. It was suggested that the short-chain DNA was effective to be a mol. wire in the **PEO** .

IT **25322-68-3DP, Poly(ethylene oxide)**, conjugated with myoglobin and DNA
(electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)

RN 25322-68-3 HCA

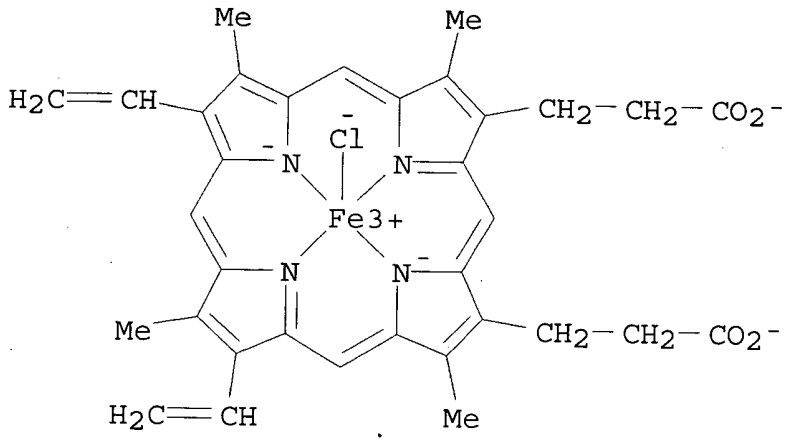
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **16009-13-5**, Hemin
(electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

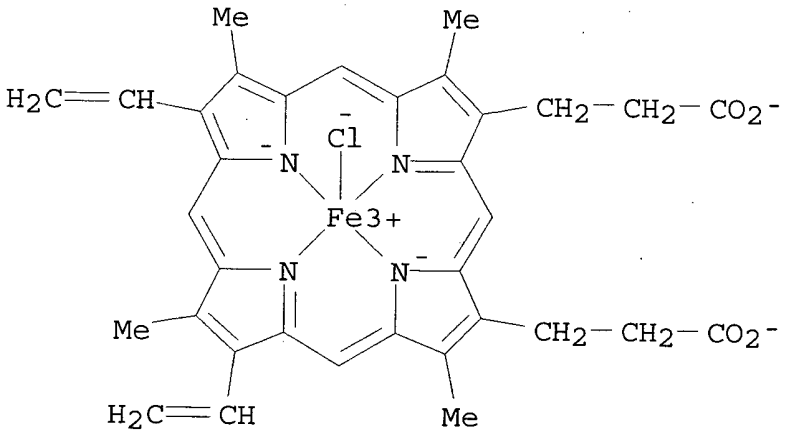


● 2 H^+

IT **16009-13-5DP**, Hemin, reaction with DNA and apomyoglobin (electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



2 H^+

CC 9-7 (Biochemical Methods)

Section cross-reference(s): 6
ST electron transfer myoglobin DNA Hemin **PEO** oligomer
IT Myoglobins
(apo-; electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)
IT **Polyoxyalkylenes**, preparation
(conjugated with myoglobin and DNA; electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)
IT Conducting polymers
Cyclic voltammetry
Electron transfer
Supramolecular structure
(electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)
IT Myoglobins
(reaction with DNA and **poly(ethylene oxide)**; electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)
IT **25322-68-3DP, Poly(ethylene oxide)**, conjugated with myoglobin and DNA
(electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)
IT **16009-13-5**, Hemin 220998-32-3
(electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)
IT **16009-13-5DP**, Hemin, reaction with DNA and apomyoglobin
220998-32-3DP, reaction with hemin and apomyoglobin
(electron transfer reaction of myoglobin contg. DNA-modified Hemin in **PEO** oligomers)

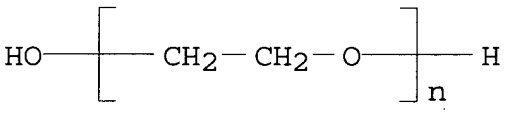
L38 ANSWER 3 OF 8 HCA COPYRIGHT 2003 ACS
126:12431 Electrochemical redox reactions of hemin derivatives having thienylene groups in ion conductive **PEO** oligomers.
Ohtaki, Hiroyuki; Kawahara, Natsue Y.; Ohno, Hiroyuki (Dep. Biotechnol., Tokyo Univ. Agric. Technol., Tokyo, 184, Japan). Solid State Ionics, 86-88(Pt. 1), 333-336 (English) 1996. CODEN: SSIOD3. ISSN: 0167-2738. Publisher: Elsevier.
AB A hemin deriv. from the reaction with 3-hydroxyethyl thiophene to obtain a hemin thienyl ester (HTE), was synthesized and its electrochem. behavior was studied in **poly(ethylene oxide)** (**PEO**) oligomer electrolytes. A cyclic voltammogram of HTE dissolved in DMF/n-tetrabutylammonium perchlorate showed redox peaks (E1/2 = -0.10 V vs. Ag) based on the heme (iron protoporphyrin IX). The HTE showed the same redox behavior in the electrolyte of PEO200 (molar mass of 200) contg. KCl. Sym. redox waves were obsd. in the cyclic voltammogram of HTE adsorbed on ITO coated glass electrode in PEO200 / KCl. The peak sepn. was about 10 mV and the current passed through was const. and both were independent of the scan rate. These results indicate that HTE mols. were fixed on the ITO electrode as a monolayer. The thienylene group was effective for fixing the redox active mols. on the ITO electrode in a way suitable for electron transfer even in

PEO electrolytes. These electrode can be used as promoters in protein electrochem.

IT **25322-68-3**
(electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)

RN 25322-68-3 HCA

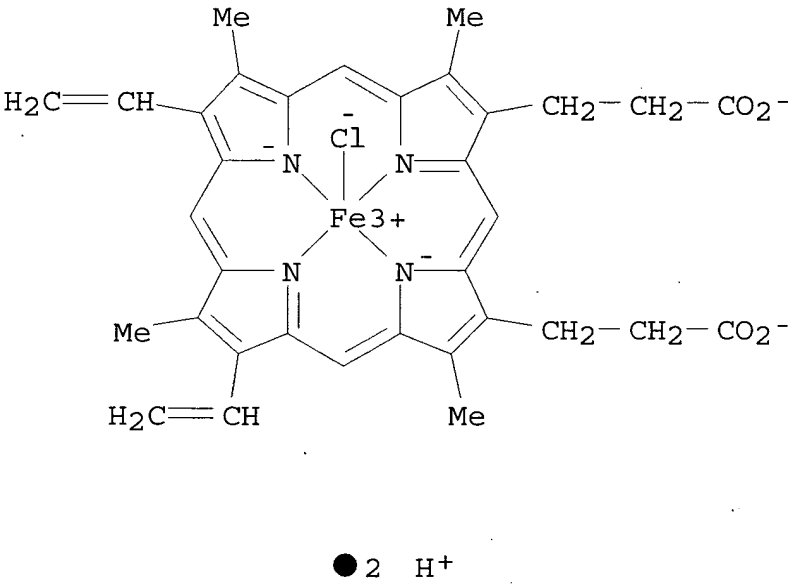
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **16009-13-5D**, Hemin, 3-hydroxyethyl thiophene derivs.
(electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



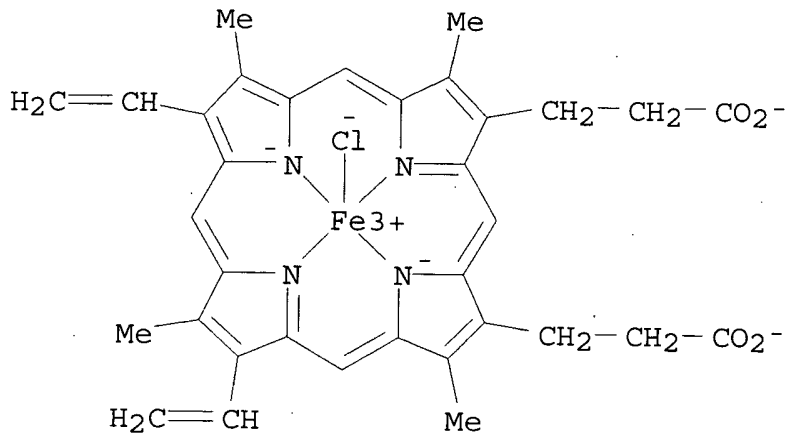
CC 72-2 (Electrochemistry)
Section cross-reference(s): 6, 38

ST hemin thienyl ester redox behavior **PEO**; electron transfer hemin monolayer ITO electrode; conducting polymer **PEO** hemin redox reaction

IT Electrodes
(bioelectrodes; electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)

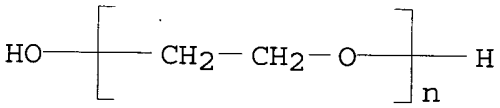
IT Conducting polymers
Electrodes
Electron transfer
(electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)
IT **Polyoxyalkylenes**, uses
Polyoxyalkylenes, uses
(electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)
IT Redox reaction
(electrochem.; electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)
IT **25322-68-3** 50926-11-9, Indium tin oxide
(electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)
IT 13781-67-4D, 3-(2-Hydroxyethyl)thiophene, hemin derivs.
16009-13-5D, Hemin, 3-hydroxyethyl thiophene derivs.
(electrochem. redox reactions of hemin thienylenes on ITO electrodes in ion conductive **PEO** electrolyte supports)

L38 ANSWER 4 OF 8 HCA COPYRIGHT 2003 ACS
110:132385 Cigaret filters containing modified hemin for carcinogen removal. Akimoto, Kengo; Suwa, Yoshihide; Amachi, Teruo (Suntory, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63063369 A2 19880319 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-207405 19860903.
AB Cigarette filters contain hemin modified by **polyethylene glycol** or other amphoteric high mol.-wt. substances to remove mutagens (carcinogens) from the smoke particle phase. The modified hemin has peroxidase activity. A cigarette filter contained **PEG**-hemin-coated acetate fibers.
IT **16009-13-5D**, Hemin, reaction products with **PEG**
25322-68-3D, **PEG**, reaction products with hemin
(in cigarette filters, for carcinogen removal)
RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC ICM A24D003-14
ICS A24F013-06
CC 11-7 (Plant Biochemistry)
Section cross-reference(s): 4
IT 9002-89-5D, Polyvinyl alcohol, reaction products with hemin **16009-13-5D**, Hemin, reaction products with **PEG** 25300-64-5D, Maleic acid-styrene copolymer, reaction products with hemin **25322-68-3D**, **PEG**, reaction products with hemin
(in cigarette filters, for carcinogen removal)

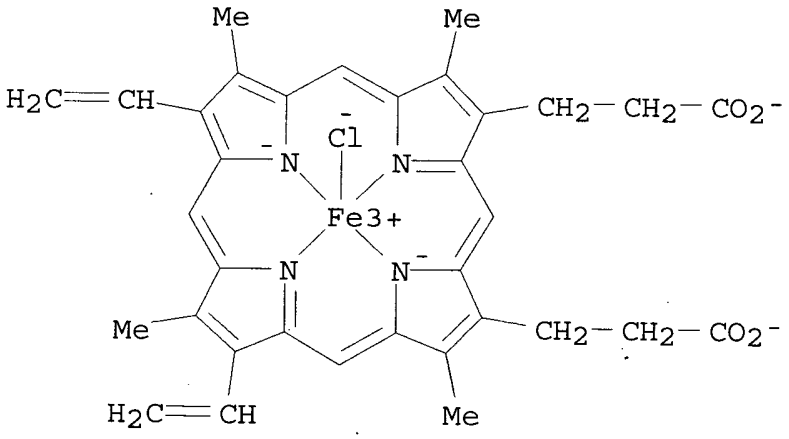
L38 ANSWER 5 OF 8 HCA COPYRIGHT 2003 ACS
109:108899 Preparation of conjugates of magnetic material, **polyethylene glycol** derivatives, and physiologically active substances. Inada, Yuji; Tamaura, Yutaka; Takahashi, Katsunobu (Bellex Corp., Japan). Eur. Pat. Appl. EP 260098 A2 19880316, 16 pp. DESIGNATED STATES: R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1987-307898 19870907. PRIORITY: JP 1986-209982 19860906; JP 1986-252479 19861023.
AB Conjugates of a magnetic material (M), a **polyethylene**

glycol deriv. (P), and a physiol. active material (E, e.g. an enzyme) are prepd. These M-P-E conjugates can be dispersed in either aq. or org. solvents and do not coagulate. They are particularly useful in bioreactors since the conjugates may be readily recovered and reused. An .alpha.,.omega.-dicarboxypolyethylene glycol (av. mol. wt. 2000) was activated with N-hydroxysuccinimide in the presence of dicyclohexylcarbodiimide and lipase was then attached. This P-E conjugate was stirred at room temp. and pH 8.0-8.5 with FeCl2 and FeCl3 to obtain the M-P-E conjugate. This conjugate had an olive oil-hydrolyzing activity of 1500 units/mg protein in an aq. soln., and a lauryl laurate synthesizing activity of 10 .mu.mol/min/mg protein in benzene. The conjugate was stably dispersed in both solvents and was completely recovered in 5 min in a magnetic field of 6000 Oe.

IT **16009-13-5DP**, conjugate with **polyethylene glycol** deriv. and physiol. active material
25322-68-3DP, derivs., conjugates with magnetic material and physiol. active substance
(prepn. of)

RN 16009-13-5 HCA

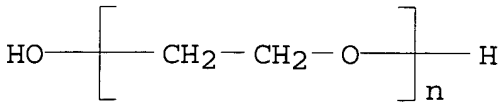
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 25322-68-3 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME).



IC ICM C07K017-08
ICS C12N011-08
CC 16-1 (Fermentation and Bioindustrial Chemistry)
Section cross-reference(s): 7
ST magnetic material **polyethylene glycol** enzyme conjugate
IT Cell
Chloroplast
Mitochondria
Neoplasm inhibitors
Pharmaceuticals
Virus
Antibodies
Antigens
Hormones
Receptors
Ribonucleic acids
(conjugate with magnetic material and **polyethylene glycol** deriv.)
IT Antibiotics
(conjugates with magnetic material and **polyethylene glycol** deriv.)
IT Olive oil
(hydrolysis of, with lipase-**polyethylene glycol** -iron chloride conjugate)
IT Amide group
Amino group
Carboxyl group
Methoxy group
(**polyethylene glycol** derivs. with terminal, conjugates of, with magnetic material and physiol. active substance)
IT Transition metal **oxides**
(complexes, with **polyethylene glycol** derivs. and physiol. active substance)
IT Ligands
(conjugated, with magnetic material and **polyethylene glycol** deriv.)
IT Amino acids, compounds
Coenzymes
Enzymes
Lipids, compounds
Nucleic acids
Polysaccharides, compounds
Proteins, specific or class
Vitamins

(conjugates, with magnetic material and **polyethylene glycol** deriv.)

IT Ferritins
(conjugates, with **polyethylene glycol** deriv. and physiol. active material, prepn. of)

IT Transition metals, compounds
(conjugates, with **polyethylene glycol** derivs. and physiol. active substances)

IT 58-64-0DP, ADP, conjugate with magnetic material and **polyethylene glycol** deriv. 1309-38-2DP, Magnetite, conjugates with **polyethylene glycol** derivs. and physiol. active substance 1332-82-7DP, Cobalt chloride, conjugate with **polyethylene glycol** deriv. and physiol. active material 2058-58-4DP, D-Asparagine, conjugate with magnetic material and **polyethylene glycol** deriv. 7705-08-0DP, Iron chloride (FeCl3), conjugates with **polyethylene glycol** derivs. and physiol. active substance 7758-94-3DP, Ferrous chloride, conjugates with **polyethylene glycol** derivs. and physiol. active substance 9001-05-2DP, Catalase, conjugate with magnetic material and **polyethylene glycol** deriv. 9001-62-1DP, Lipase, conjugate with magnetic material and **polyethylene glycol** deriv. 9004-74-4DP, conjugate with magnetic material and physiol. active substance 9014-01-1DP, Subtilisin, conjugate with magnetic material and **polyethylene glycol** deriv. 9015-68-3DP, Asparaginase, conjugate with magnetic material and **polyethylene glycol** deriv. 10025-74-8DP, Dysprosium chloride, conjugates with **polyethylene glycol** derivs. and physiol. active substance 11028-71-0DP, Concanavalin A, conjugate with magnetic material and **polyethylene glycol** deriv. 12427-24-6DP, Ferrite (ferrous metal component), conjugates with **polyethylene glycol** derivs. and physiol. active substance 12645-29-3DP, Erbium **oxide**, conjugates with **polyethylene glycol** derivs. and physiol. active substance **16009-13-5DP**, conjugate with **polyethylene glycol** deriv. and physiol. active material 24991-53-5DP, conjugate with magnetic material and physiol. active substance **25322-68-3DP**, derivs., conjugates with magnetic material and physiol. active substance 39927-08-7DP, conjugate with magnetic material and physiol. active substance 66488-69-5DP, conjugate with magnetic material and physiol. active substance 67665-18-3DP, conjugate with magnetic material and physiol. active substance 72708-10-2DP, 2,4-Bis(O-methoxypolyethylene glycol)-6-chloro-S-triazine, conjugate with magnetic material and physiol. active substance 80506-64-5DP, conjugate with magnetic material and physiol. active substance 110123-21-2DP, conjugate with magnetic material and physiol. active substance 111144-84-4DP, conjugate with magnetic material and physiol. active substance 116164-53-5DP, conjugate with magnetic material and physiol. active substance

(prepn. of)
IT 13945-76-1P, Lauryl laurate
(prepn. of, with lipase-**polyethylene glycol**
-iron chloride conjugate)

L38 ANSWER 6 OF 8 HCA COPYRIGHT 2003 ACS
97:98225 Reversible oxygen-binding by the poly(1-vinyl-2-methylimidazole)-heme complex in polysaccharide solution. Tsuchida, Eishun; Nishide, Hiroyuki (Dep. Polym. Chem., Waseda Univ., Tokyo, 160, Japan). Makromolekulare Chemie, Rapid Communications, 3(6), 417-19 (English) 1982. CODEN: MCRCD4. ISSN: 0173-2803.
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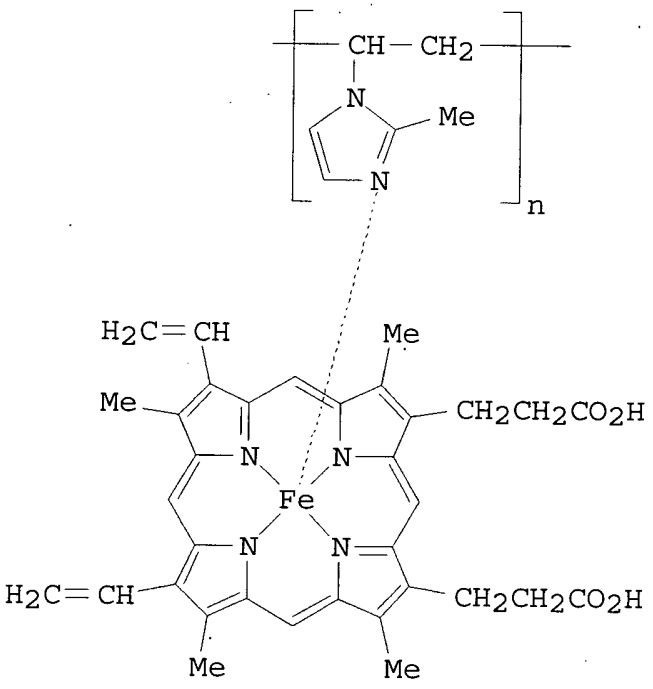


I

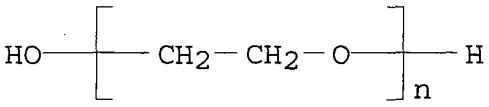
AB The UV spectrum of the O adduct of a heme-poly(1-vinyl-2-methylimidazole) complex (I) was more clearly seen in a 2 wt. % soln. of dextran [9004-54-0] than the adduct in an aq. soln. The spectrum changes to a heme-CO complex by bubbling CO and returns to the deoxycomplex by bubbling N through the soln. The O-I adduct degraded under O atm. to the polymer-hemin complex by 1st order kinetics. The life-time of the O adduct increased with added amt. of dextran and increased mol. wt. of dextran. The life-time of the O adduct was greatly prolonged in a viscous soln. of hyaluronic acid [9004-61-9]. poly(vinylpyrrolidinone) [9003-39-8] And **polyoxyethylene** [**25322-68-3**] also extended the

O-adduct lifetime but only up to 2 wt. % concns., any further increase in conc. causing a decrease in lifetime. The O adduct lifetime in the polysaccharides decreased with increasing temp. (-30 to 0.degree.). This complex might have use as a plasma expander.

IT **25322-68-3**
(reversible oxygen binding by poly(vinylmethylimidazole)-heme complex in relation to)

RN 25322-68-3 HCA

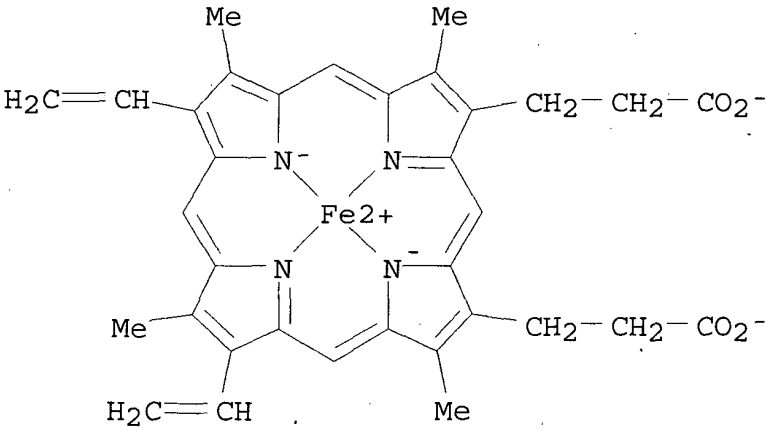
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **14875-96-8D**, poly(vinylmethylimidazole) complexes
(reversible oxygen binding by, polysaccharide soln. enhancement of)

RN 14875-96-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1

IT 9003-39-8 **25322-68-3**
(reversible oxygen binding by poly(vinylmethylimidazole)-heme complex in relation to)

IT **14875-96-8D**, poly(vinylmethylimidazole) complexes
26983-77-7D, heme complexes

(reversible oxygen binding by, polysaccharide soln. enhancement of)

L38 ANSWER 7 OF 8 HCA COPYRIGHT 2003 ACS

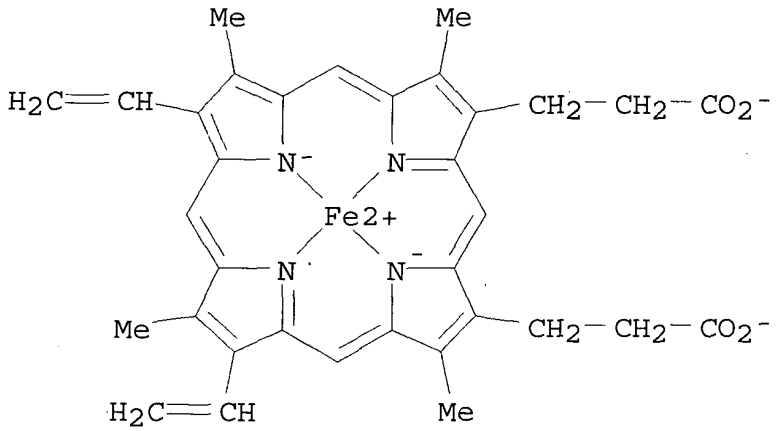
92:141830 A comparison of dioxygen activation by biochemical and synthetic polymeric chemical systems. Bayer, E. (Inst. Org. Chem., Univ. Tuebingen, Tuebingen, 7400, Fed. Rep. Ger.). Jerusalem Symposia on Quantum Chemistry and Biochemistry, 12(Catal. Chem. Biochem.: Theory Exp.), 323-33 (English) 1979. CODEN: JSQCA7. ISSN: 0075-3696.

AB A review with 25 refs. Synthetic sol. polymers (e.g. of **polyoxyethylene**) can be functionalized by various catalytically active centers to obtain homogeneous catalysts. **Polyoxyethylene**-peptides and hemo-**polyoxyethylene** -peptides can be used as metal compds. for the catalytic properties of metalloproteins and metalloenzymes.

IT **14875-96-8D**, polymers contg. **25322-68-3D**, hemopeptide and peptide derivs.
(as metalloprotein models)

RN 14875-96-8 HCA

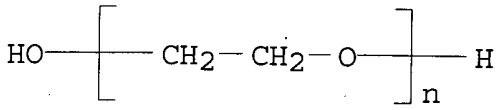
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

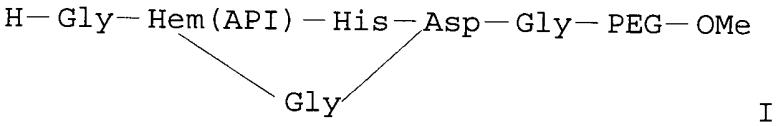
RN 25322-68-3 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



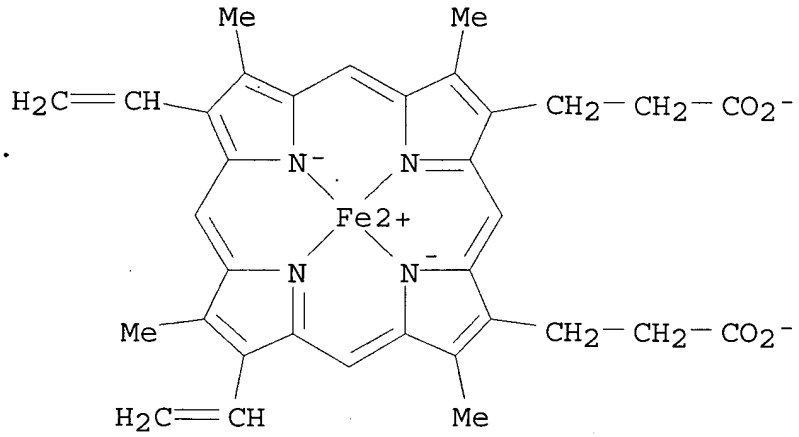
CC 6-0 (General Biochemistry)
Section cross-reference(s): 7
ST heme peptide **polyoxyethylene** model review; review oxygen activation metalloprotein model
IT Peptides, compounds
(**polyoxyethylene** derivs., as metalloprotein models)
IT **14875-96-8D**, polymers contg. **25322-68-3D**, hemopeptide and peptide derivs.
(as metalloprotein models)

L38 ANSWER 8 OF 8 HCA COPYRIGHT 2003 ACS
89:48878 Polymeric oxygen carriers. Bayer, Ernst; Holzbach, Gunter (Fed. Rep. Ger.). Ger. Offen. DE 2645079 19780413, 20 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1976-2645079 19761006.
GI



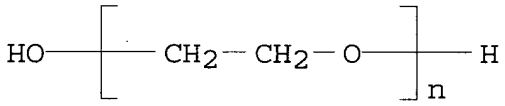
I

AB A sol. complex was prepd. from a metal of group VIII, IIb, Ib, covalently bound to a tetradentate polymeric ligand and contg. an axial 5th ligand. **Polyethylene glycol** monomethyl ether was esterified with the glycine deriv., deblocked, coupled with aspartic acid, histidine, and hematoporphyrin, and the hematoporphyrin moiety esterified with glycine and aminated with 3-(1-imidazolyl)propylamine-2HCl, and cyclized to give a polymer I (Hem = hematoporphyrin, API = 3-(1-imidazolyl)propylamino, **PEG = polyethylene glycol**), which was metalated with Co(OAc)2 or FeSO4.
IT **14875-96-8**
(coupling of, with a peptidyl **polyethylene glycol**)
RN 14875-96-8 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)

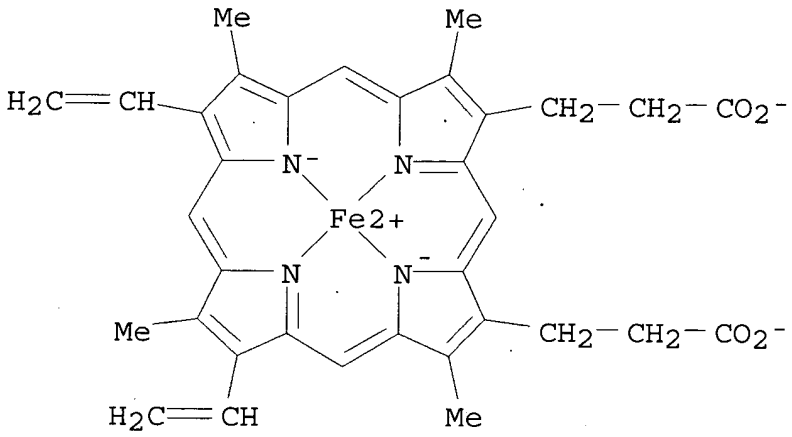


● 2 H^+

IT **25322-68-3**
(esterification of)
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)

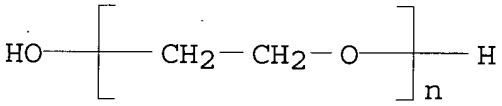


IT **14875-96-8DP**, reaction products with peptides-**polyethylene glycol** polymers **25322-68-3DP**, reaction products with hemin-peptides
(prepn. of, as blood substitutes)
RN 14875-96-8 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC C08F008-00
CC 63-3 (Pharmaceuticals)
Section cross-reference(s): 34
ST hematoporphyrin polymer bound blood substitute; **polyethylene glycol** hematoporphyrin peptide blood substitute; metal complex hematoporphyrin polymer blood substitute; oxygen carrier hematoporphyrin polymer; blood substitute hematoporphyrin polymer
IT Blood substitutes
(hematoporphyrin-peptide-**polyethylene glycol** metal complexes)
IT **14875-96-8**
(coupling of, with a peptidyl **polyethylene glycol**)
IT 67084-39-3
(coupling of, with glycyl **polyethylene glycol**)
IT **25322-68-3**
(esterification of)
IT 4530-20-5
(esterification of **polyethylene glycol** by)
IT 71-48-7 7720-78-7

(metalation of hematoporphyrin peptide **polyethylene glycol** polymer with)

IT 107-15-3DP, reaction products with poly(vinylpyrrolidinone) and hemin 5036-48-6DP, reaction products with hematoporphyrin-peptides-**polyethylene glycol** 7439-89-6DP, complexes with hematoporphyrin-peptides-aminopropylimidazole-**polyethylene glycol** 7440-48-4DP, complexes with hematoporphyrin-peptides-aminopropylimidazole-**polyethylene glycol 14875-96-8DP**, reaction products with peptides-**polyethylene glycol** polymers 17583-33-4DP, reaction products with hemin-peptide-**polyethylene glycol** polymer **25322-68-3DP**, reaction products with hemin-peptides
(prepn. of, as blood substitutes)

IT 7536-58-5
(reaction of, with glycyl **polyethylene glycol** monomethyl ether)

IT 14459-29-1
(reaction of, with peptidyl **polyethylene glycol** monomethyl ether)

IT 17791-52-5
(reaction of, with **polyethylene glycol** deriv.)

IT 67084-40-6
(reaction of, with **polyethylene glycol** monomethyl ether)

=> d l39 1-20 cbib abs hitstr hitind

L39 ANSWER 1 OF 20 HCA COPYRIGHT 2003 ACS

138:1984 Automated method for correcting blood analysis parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum. Shapiro, Phyllis (Bayer Corporation, USA). PCT Int. Appl. WO 2002097391 A2 20021205, 36 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2002-US16456 20020523. PRIORITY: US 2001-865759 20010525.

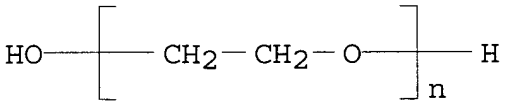
AB The invention describes an automated method for correcting interferences with blood chem. results on plasma or serum using automated hematol. anal. of a whole blood sample. Such interference error results from the presence of exogenous oxygen-carrying blood substitutes in transfused blood samples. The automated method is performed using automated hematol. anal. to correct errors due to interference in the detn. of blood chemistries to provide accurate

quantification of these parameters directly, rapidly and automatically. The automated interference correction method is advantageous for medical and clin. use following transfusion of patients with blood substitutes after trauma or during surgery, and for repeated or periodic monitoring of patient's blood samples during recovery. The invention method can also be used to correct for any in vivo hemolysis, or in-collection-tube hemolysis if both the chem. results and the cell by cell measurements are performed on blood from the same collection tube.

IT **25322-68-3D, Peg**, reaction with Hb
(automated method for correcting blood anal. parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum)

RN 25322-68-3 HCA

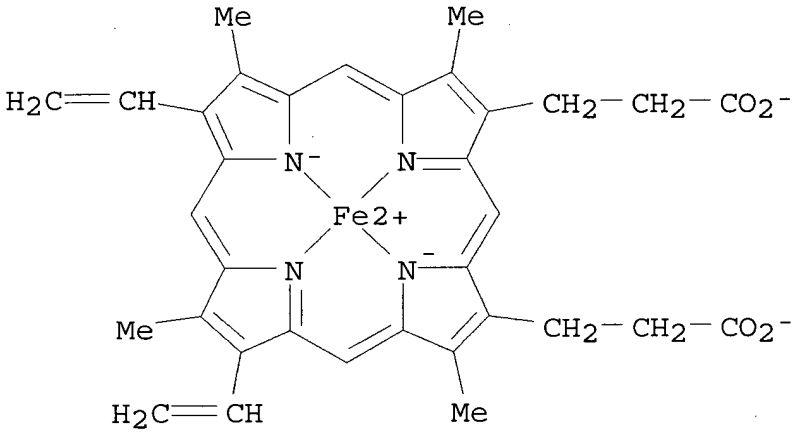
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **14875-96-8**, Heme
(automated method for correcting blood anal. parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum)

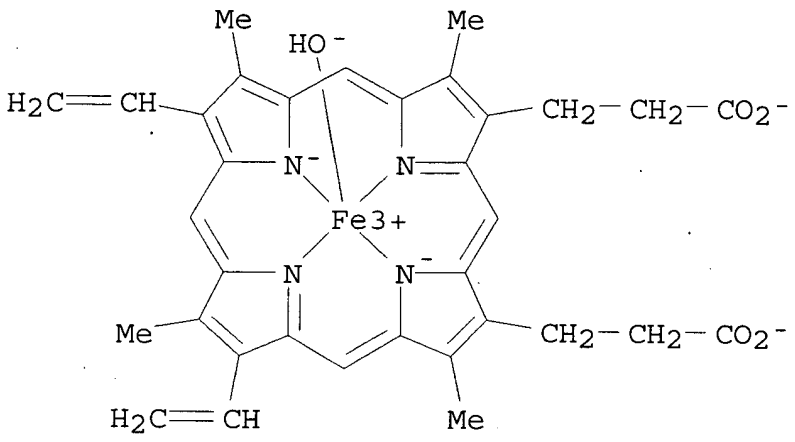
RN 14875-96-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



IC ICM G01N
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 7, 14, 63
IT Hemoglobins
(**ethoxylated**; automated method for correcting blood anal. parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum)
IT **Polyoxyalkylenes**, analysis
(reaction with Hb; automated method for correcting blood anal. parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum)
IT 50-99-7, Glucose, analysis 57-13-6, Urea, analysis 60-27-5, Creatinine 71-52-3, Bicarbonate, analysis 635-65-4, Bilirubin, analysis 7439-95-4, Magnesium, analysis 7440-70-2, Calcium, analysis 9000-86-6, Alanine transaminase 9000-92-4, Amylase 9000-97-9 9001-15-4 9001-60-9, Lactate dehydrogenase 9001-62-1, Lipase 9001-78-9, Alkaline phosphatase 9046-27-9 14265-44-2, Phosphate, analysis **25322-68-3D**, **Peg** , reaction with Hb
(automated method for correcting blood anal. parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum)
IT **14875-96-8**, Heme
(automated method for correcting blood anal. parameter results affected by interference from exogenous blood substitutes in whole blood, plasma, and serum)

L39 ANSWER 2 OF 20 HCA COPYRIGHT 2003 ACS
137:353362 Synthesis of polyaniline on multi-walled carbon nanotubes. Bruno, Ferdinando F.; Samuelson, Lynn; Roy, Sucharita; Nagarajan, Ramaswamy; Kumar, Jayant; Ziegler, David; Sennett, Michael (Materials Science Team, Natick Soldier Center, U.S. Army Soldier, Biological, Chemical Command, Natick, MA, 01760, USA). Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), 43(2), 961-962 (English) 2002. CODEN: ACPPAY. ISSN: 0032-3934. Publisher: American Chemical Society, Division of Polymer Chemistry.
AB Polyaniline, an electroactive polymer, was prepd. using a sulfonated multiwalled C nanotube (MWCNT) as a template. A synthetic enzyme, **PEG-hematin**, was used as a catalyst for the polymn. reaction in an aq. medium at an optimized pH = 2. The prepn. procedure is described, and the samples were characterized by UV-vis spectroscopy and TEM. The polyaniline (Pani) grows irregularly on the MWCNT. The Pani/MWCNT complex could be useful as a corrosion inhibitor.
IT **15489-90-4**, **Hematin**
(synthesis of polyaniline on multi-walled C nanotubes using **PEG-hematin** as catalyst)
RN 15489-90-4 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36

IT **15489-90-4, Hematin**
(synthesis of polyaniline on multi-walled C nanotubes using **PEG-hematin** as catalyst)

L39 ANSWER 3 OF 20 HCA COPYRIGHT 2003 ACS

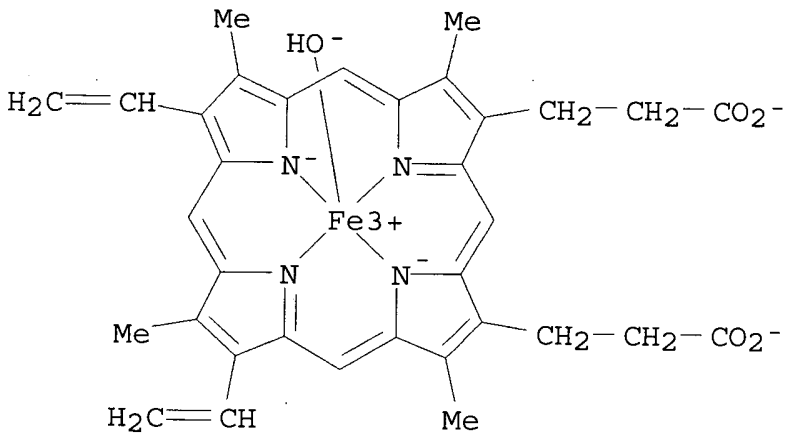
137:52032 Cosmetics containing pig placenta extracts and skin-lightening agents or hair growth stimulants. Ohara, Mitsuharu; Tanaka, Kiyotaka (Ichimaru Pharcos Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2002179523 A2 20020626, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-382985 20001215.

AB The cosmetics show moisturizing and lightening effect on skin and prevent chap, dandruff, inflammation, spots, freckles, dry hair, split hair, hair loss, etc. A hair tonic was prepd. from EtOH 60.0, **polyoxyethylene** oleyl ether 2.0, pig placenta ext. (prepn. given) 1.0, nicotinamide 0.3, pantothenyl alc. 0.1, minoxidil 0.2, saponin-contg. Panax japonicus ext. (prepn. given) 1.0%, and H2O balance. Hair growth-stimulating effect of the tonic was also shown.

IT **15489-90-4, Hematin**
(Growthphyllin; cosmetics contg. pig placenta exts. and skin-lightening agents or hair growth stimulants)

RN 15489-90-4 HCA

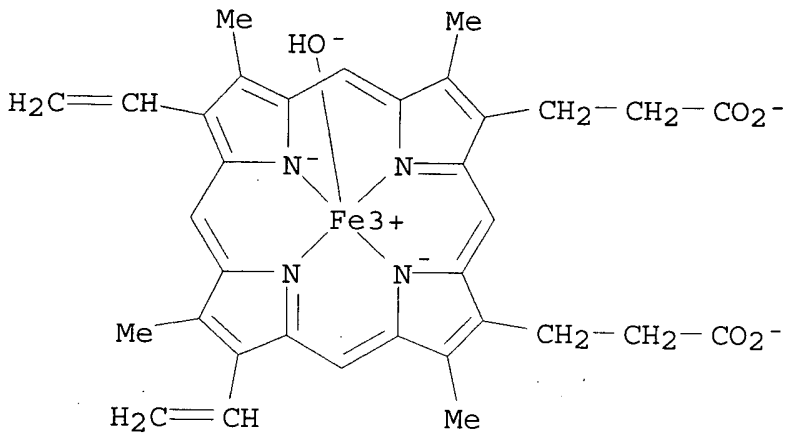
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

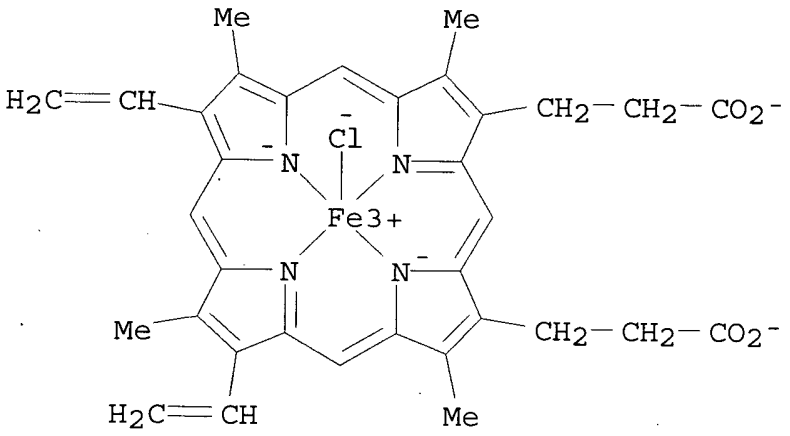
IC ICM A61K007-00
ICS A61K007-00; A61K007-06; A61K007-075; A61K007-48; A61K007-50; A61K035-50; A61P017-00; A61P017-14
CC 62-4 (Essential Oils and Cosmetics)
IT **15489-90-4, Hematin**
(Growthphyllin; cosmetics contg. pig placenta exts. and skin-lightening agents or hair growth stimulants)

L39 ANSWER 4 OF 20 HCA COPYRIGHT 2003 ACS
136:172481 Hair compositions having hair growth-stimulating effects. Kato, Terumi; Nomura, Tomoaki (Japan). Jpn. Kokai Tokkyo Koho JP 2002053434 A2 20020219, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-239911 20000808.
AB The invention relates to a hair compn. having excellent hair growth-stimulating effect, wherein the compn. contains (1) a porphyrin compds. selected from hemin and/or **hematin**, (2) yeast and/or lactic acid bacteria fermn. product (3) isoflavone obtained from soybean and/or arrowroot. A hair compn. contg. **hematin** 5, yeast fermn. product 5, isoflavone-contg. Pueraria root ext. 10, sage ext. 4.9, sage soln. 4.9, **polyoxyethylene** sorbitan monooleate 0.7, ethanol 30, and water q.s. to 100 % was formulated, and its hair growth-stimulating effect was examd. in mice.
IT **15489-90-4, Hematin 16009-13-5**, Hemin
(hair growth-stimulating compns. contg. porphyrin compds., bacteria fermn. products, and isoflavones)
RN 15489-90-4 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM A61K007-06
CC 62-3 (Essential Oils and Cosmetics)
IT **15489-90-4**, **Hematin 16009-13-5**, Hemin
(hair growth-stimulating compns. contg. porphyrin compds.,

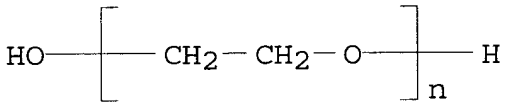
bacteria fermn. products, and isoflavones)

L39 ANSWER 5 OF 20 HCA COPYRIGHT 2003 ACS
136:2532 Automated method for detecting, quantifying and monitoring exogenous hemoglobin in whole blood, plasma and serum. Malin, Michael J.; Shapiro, Phyllis (Bayer Corporation, USA). Eur. Pat. Appl. EP 1162461 A2 20011212, 20 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-112904 20010605. PRIORITY: US 2000-PV210625 20000609.

AB The invention provides a new method and system for detecting and monitoring extracellular or exogenously added Hb, i.e., a cellfree Hb substitute or deriv., in a blood, plasma, or serum sample of an individual, particularly a whole blood sample. The invention further describes the use of automated hematol. analyzers to det. and quantify atthe same time the concn. of total, cellular and exogenous Hb in a blood, plasma, or serum sample, and is particularly advantageous for medical use during or after patient trauma or surgery, as well as for monitoring Hb levels during patient recovery.

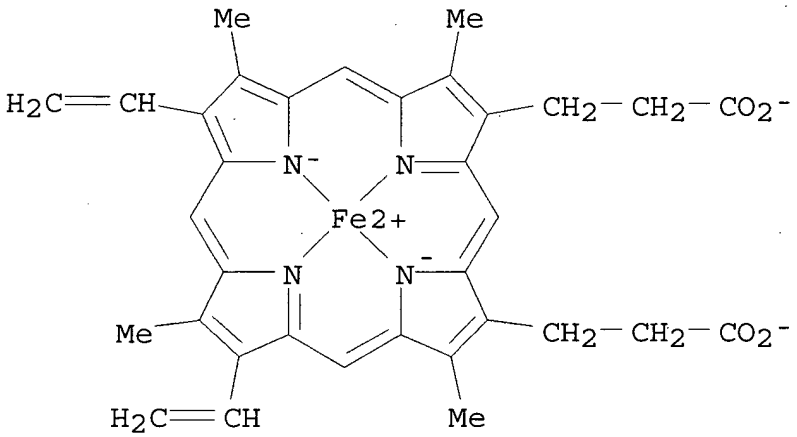
IT **25322-68-3D, Polyethylene glycol,** reaction products with Hb
(automated method for detecting, quantifying and monitoring exogenous Hb in whole blood, plasma and serum)

RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **14875-96-8,** Heme
(automated method for detecting, quantifying and monitoring exogenous Hb in whole blood, plasma and serum)

RN 14875-96-8 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM G01N033-72
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 14
IT **Polyoxyalkylenes**, analysis
(reaction products with Hb; automated method for detecting, quantifying and monitoring exogenous Hb in whole blood, plasma and serum)
IT 111-30-8D, Glutaraldehyde, reaction products with Hb
25322-68-3D, Polyethylene glycol,
reaction products with Hb 197252-65-6, Hemopure 358351-94-7, Oxyglobin
(automated method for detecting, quantifying and monitoring exogenous Hb in whole blood, plasma and serum)
IT **14875-96-8**, Heme
(automated method for detecting, quantifying and monitoring exogenous Hb in whole blood, plasma and serum)

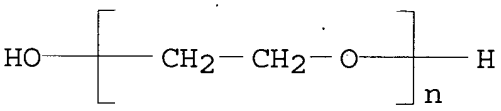
L39 ANSWER 6 OF 20 HCA COPYRIGHT 2003 ACS
131:134467 Changes in the functional properties of bovine hemoglobin induced by covalent modification with **polyethylene glycol**. Shorr, Robert G. L.; Kwong, Suzanna; Gilbert, Carl; Benesch, Ruth E. (Enzon, Inc., NJ, 08854-3969, USA). Artificial Cells, Blood Substitutes, and Immobilization Biotechnology, 27(3), 185-202 (English) 1999. CODEN: ABSBE4. ISSN: 1073-1199. Publisher: Marcel Dekker, Inc..
AB **Polyethylene glycol** conjugation to proteins and peptides (**PEGylation**) has been shown to promote increased retention time in the circulation as well as to blunt immune or allergic reactions. **PEGylated** bovine Hb (**PEG**-Hb) is being explored in human clin. trials as an oxygen delivering

agent for the sensitization of solid tumors to radiation therapy. In this study the functional properties of **PEG**-Hb were compared to those of bovine Hb, the mutant human Hb Rothchild and bovine Hb crosslinked between the beta chains. The rate of heme transfer from Hb to serum albumin at pH 9.0 was greatly increased by **PEGylation**, suggesting destabilization of the heme-globin linkage and of the bonds between .alpha..beta. dimers. Measurement of oxygen binding equil. showed that the oxygen affinity of Hb became unusually dependent on temp. and Hb concn. after **PEGylation**. Evidence is presented to suggest that **PEGylation** of lysine .beta.-81 at the entrance to the central cavity of the Hb tetramer might be responsible for these observations. The alterations of the functional properties of Hb induced by **PEGylation** are consistent with the beneficial effects of **PEG**-Hb in exchange transfusion and radiation sensitization models of human conditions.

IT **25322-68-3D, Polyethylene glycol,** reaction products with Hb
(**PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)

RN 25322-68-3 HCA

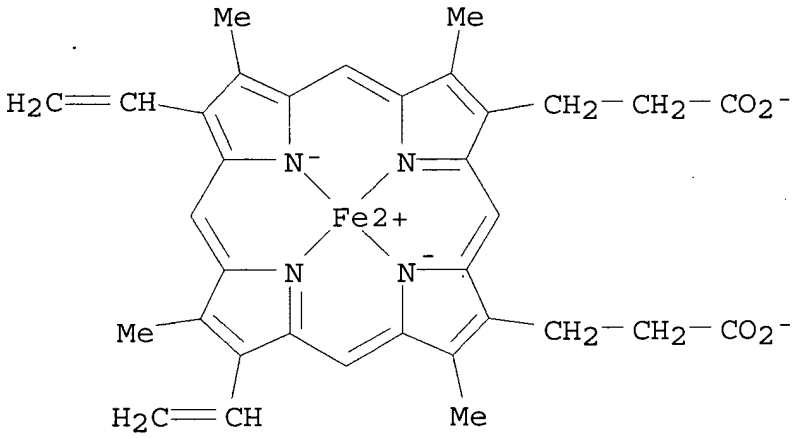
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **14875-96-8**, Heme
(transfer from Hb to serum albumin; **PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)

RN 14875-96-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



CC 63-3 (Pharmaceuticals)
ST Hb functional property stability **polyethylene glycol**; **PEGylation** Hb property oxygen carrier
IT Blood substitutes
(**PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)
IT **Polyoxyalkylenes**, biological studies
(reaction products with Hb; **PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)
IT Hemoglobins
(reaction products with **polyethylene glycol**; **PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)
IT Albumins, biological studies
(serum, heme transfer from Hb to; **PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)
IT **25322-68-3D**, **Polyethylene glycol**, reaction products with Hb
(**PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)
IT 7782-44-7, Oxygen, biological studies
(affinity for; **PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)
IT **14875-96-8**, Heme
(transfer from Hb to serum albumin; **PEGylation** effects on functional properties of bovine Hb as oxygen delivering agent)

L39 ANSWER 7 OF 20 HCA COPYRIGHT 2003 ACS
130:29221 Preparation of solid porous matrixes for pharmaceutical uses.
Unger, Evan C. (ImaRx Pharmaceutical Corp., USA). PCT Int. Appl. WO

9851282 A1 19981119, 139 pp. DESIGNATED STATES: W: AU, BR, CA, CN, JP, KR, NZ; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1998-US9570 19980512. PRIORITY: US 1997-46379 19970513.

AB A solid porous matrix formed from a surfactant, a solvent, and a bioactive agent is described. Thus, amphotericin nanoparticles were prepd. by using ZrO2 beads and a surfactant. The mixt. was milled for 24 h.

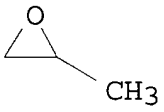
IT **9003-11-6 16009-13-5**, Hemin **25322-68-3 25322-68-3D**, **PEG**, ethers **25322-69-4**, **Polypropylene glycol**
(prepn. of solid porous matrixes for pharmaceutical uses)

RN 9003-11-6 HCA

CN Oxirane, methyl-, polymer with oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 75-56-9
CMF C3 H6 O

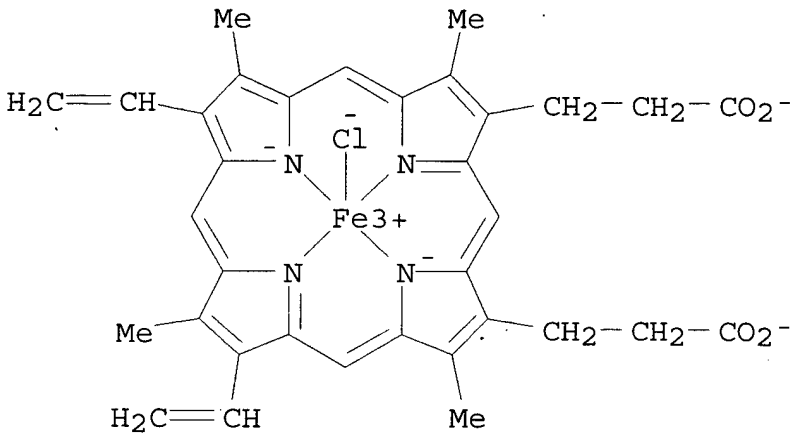


CM 2

CRN 75-21-8
CMF C2 H4 O

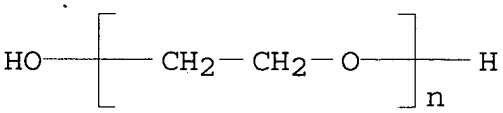
RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

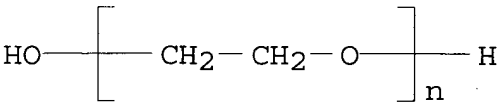


● 2 H^+

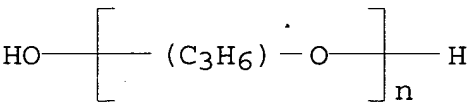
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 25322-69-4 HCA
CN Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IC ICM A61K009-10
CC 63-6 (Pharmaceuticals)
IT **Polyoxyalkylenes**, biological studies

(ethers; prepn. of solid porous matrixes for pharmaceutical uses)

IT **Polyoxyalkylenes**, biological studies
(prepn. of solid porous matrixes for pharmaceutical uses)

IT 677-56-5, Propane-1,1,1,2,2,3-hexafluoro 678-26-2, Perfluoropentane 684-16-2, Hexafluoroacetone 685-63-2, Hexafluoro-1,3-butadiene 689-97-4, Vinyl acetylene 692-50-2, Hexafluoro-2-butyne 752-61-4, Digitalin 768-94-5, Amantadine 818-92-8, 3-FluoroPropylene 846-50-4, Temazepam 921-13-1, Chlorodinitromethane 927-84-4, Trifluoromethyl peroxide 928-45-0, Butyl nitrate 968-93-4, Testolactone 987-24-6, Betamethasone acetate 990-73-8, Fentanyl citrate 1070-11-7, Ethambutol hydrochloride 1119-94-4, Lauryltrimethylammonium bromide 1119-97-7, Myristyltrimethylammonium bromide 1172-18-5 1177-87-3, Dexamethasone acetate 1191-96-4, EthylCyclopropane 1306-06-5, Hydroxylapatite 1397-89-3, Amphotericin B 1400-61-9, Nystatin 1404-04-2, Neomycin 1405-37-4, Capreomycin sulfate 1493-03-4, Difluoroiodomethane 1597-82-6, Paramethasone acetate 1630-94-0, 1,1-DimethylCyclopropane 1691-13-0, 1,2-Difluoroethylene 1722-62-9, Mepivacaine hydrochloride 1759-88-2 1867-66-9, Ketamine hydrochloride 2022-85-7, Flucytosine 2068-78-2, Vincristine sulfate 2314-97-8, IodotriFluoromethane 2366-52-1, 1-Fluorobutane 2375-03-3, Methylprednisolone sodium succinate 2392-39-4, Dexamethasone sodium phosphate 2511-95-7, 1,2-DimethylCyclopropane 2551-62-4, Sulfur hexafluoride 3116-76-5, Dicloxacillin 3385-03-3, Flunisolide 3458-28-4, Mannose 3485-14-1, Cyclacillin 3511-16-8, Hetacillin 3529-04-2, Benzyldimethylhexadecylammonium bromide 3810-74-0, Streptomycin sulfate 3858-89-7, Chloroprocaine hydrochloride 4185-80-2, Methotrimeprazine hydrochloride 4428-95-9, Foscarnet 4431-00-9, Aurintricarboxylic acid 4697-36-3, Carbenicillin 4786-20-3, Crotononitrile 4901-75-1, 3-Ethyl-3-methyldiaziridine 5534-09-8, Beclomethasone dipropionate 5536-17-4, Arabinosyl adenine 5611-51-8, Triamcinolone hexacetonide 5714-22-7, Sulfur fluoride (S2F10) 6000-74-4, Hydrocortisone sodium phosphate 7281-04-1, Benzyldimethyldodecylammonium bromide 7297-25-8, Erythritol tetranitrate 7439-89-6, Iron, biological studies 7440-01-9, Neon, biological studies 7440-06-4D, Platinum, compds., biological studies 7440-15-5, Rhenium, biological studies 7440-24-6, Strontium, biological studies 7440-26-8, Technetium, biological studies 7440-48-4, Cobalt, biological studies 7440-63-3, Xenon, biological studies 7440-65-5, Yttrium, biological studies 7601-55-0, Metocurine iodide 7637-07-2, biological studies 7647-14-5, Sodium chloride, biological studies 7681-14-3, Prednisolone tebutate 7727-37-9, Nitrogen, biological studies 7728-73-6 7782-41-4, Fluorine, biological studies 7782-44-7, Oxygen, biological studies 7783-82-6, Tungsten hexafluoride 9001-75-6, Pepsin 9001-78-9, Alkaline phosphatase 9002-01-1, Streptokinase 9002-04-4, Thrombin 9002-60-2, Adrenocorticotropic hormone, biological studies 9002-61-3 9002-72-6, Growth hormone 9002-79-3, Melanocyte stimulating hormone 9002-89-5, Poly(vinyl alcohol) **9003-11-6** 9003-39-8, PVP 9004-10-8, Insulin,

biological studies 9004-34-6, Cellulose, biological studies 9004-54-0, Dextran, biological studies 9004-61-9, Hyaluronic acid 9004-67-5, Methyl Cellulose 9005-25-8, Starch, biological studies 9005-27-0, HETA-starch 9005-32-7, Alginic acid 9005-49-6, Heparin, biological studies 9005-64-5, **Polyoxyethylene** sorbitan monolaurate 9005-65-6, **Polyoxyethylene** sorbitan monooleate 9005-66-7, **Polyoxyethylene** sorbitan monopalmitate 9005-67-8, **Polyoxyethylene** sorbitan monostearate 9005-71-4, **Polyoxyethylene** sorbitan tristearate 9007-12-9, Calcitonin 9007-92-5, Glucagon, biological studies 9011-14-7, PMMA 9011-97-6, Cholecystokinin 9015-68-3, Asparaginase 9015-71-8, Corticotropin releasing factor 9036-19-5, Octoxynol 9039-53-6, Urokinase 9061-61-4, Nerve growth factor 10024-97-2, Nitrogen oxide (N2O), biological studies 11000-17-2, Vasopressin 11056-06-7, Bleomycin 11096-26-7, Erythropoietin 13264-41-0, Cetyldimethylethylammonium chloride 13292-46-1, Rifampin 13311-84-7, Flutamide 13647-35-3, Trilostane 15500-66-0, Pancuronium bromide 15663-27-1, Cisplatin 15686-71-2, Cephalexin 15687-27-1, Ibuprofen **16009-13-5**, Hemin 16136-85-9 17598-65-1, Deslanoside 18010-40-7, Bupivacaine hydrochloride 18323-44-9, Clindamycin 18378-89-7, Plicamycin 18773-88-1, Benzyldimethyltetradecylammonium bromide 20187-55-7, Bendazac 20274-91-3 20830-75-5, Digoxin 21829-25-4 , Nifedipine 22204-53-1, Naproxen 22494-42-4, Diflunisal 22916-47-8, Miconazole 23110-15-8, Fumagillin 23541-50-6, Daunorubicin hydrochloride 24356-66-9 24764-97-4, 2-Bromobutyraldehyde 24991-23-9 25104-18-1, Polylysine 25151-81-9, Prostanoic acid 25316-40-9, Adriamycin **25322-68-3 25322-68-3D**, **PEG**, ethers **25322-69-4**, **Polypropylene glycol** 25513-46-6, Polyglutamic acid 26023-30-3, Poly[oxy(1-methyl-2-oxo-1,2-ethanediyl)] 26100-51-6, Poly(lactic acid) 26171-23-3, Tolmetin 26780-50-7, Glycolide-lactide copolymer 26787-78-0, Amoxicillin 26839-75-8, Timolol 28911-01-5, Triazolam 29121-60-6, Vaninolol 29767-20-2, Teniposide 30516-87-1, Azidothymidine 31637-97-5, Etofibrate 33069-62-4, Taxol 33125-97-2, Etomidate 33419-42-0, Etoposide 33507-63-0, Substance p 34077-87-7, DiChlorotrifluoroethane 34787-01-4, Ticarcillin 36322-90-4 36637-19-1, Etidocaine hydrochloride 36791-04-5, Ribavirin 38000-06-5, Polylysine 38194-50-2, Sulindac 38821-53-3, Cephradine 39391-18-9, Cyclooxygenase 41575-94-4, Carboplatin 42399-41-7, Diltiazem 47141-42-4, Levobunolol 50370-12-2, Cefadroxil 50402-72-7, Piperidine-2,3,6-trimethyl 50700-72-6, Vecuronium bromide 50972-17-3, Bacampicillin 51264-14-3, Amsacrine 52205-73-9, Estramustine phosphate sodium 52365-63-6, Dipivefrin 53045-71-9, 1-Pentene-3-bromo 53188-07-1, Trolox 53678-77-6, Muramyldipeptide 53994-73-3, Cefaclor 54965-24-1, Tamoxifen citrate 55142-85-3, Ticlopidine 57223-18-4, 1-Nonen-3-yne 59277-89-3, Acyclovir 59467-96-8, Midazolam hydrochloride 60118-07-2, Endorphin 62031-54-3, Fibroblast growth factor 62229-50-9, Epidermal growth factor 62232-46-6, Bifemelane

hydrochloride 62571-86-2, Captopril 62683-29-8, Colony stimulating factor 63659-18-7, Betaxolol 65277-42-1, Ketoconazole 68302-57-8 68367-52-2, Sorbinil 69279-90-9, Ansamitocin 72702-95-5, Ponalrestat 73218-79-8, Apraclonidine hydrochloride 73984-11-9 74381-53-6, Leuprolide acetate 74790-08-2, Spiroplatin 75847-73-3, Enalapril 76547-98-3, Lisinopril 77181-69-2, Sorivudine 80755-87-9 81486-22-8, Nipradilol 82159-09-9, Epalrestat 82410-32-0, Ganciclovir 82964-04-3, Tolrestat 83869-56-1, Granulocyte macrophage colony stimulating factor 86090-08-6, Angiostatin 88096-12-2 89149-10-0, 15-Deoxyspergualin 98023-09-7 99896-85-2 106956-32-5, Oncostatin M 113852-37-2, Cidofovir 116632-15-6, 1.2.3-Nonadecanetricarboxylic acid 2-hydroxytrimethylester 119813-10-4, Carzelesin 120279-96-1, Dorzolamide 120287-85-6D, Cetrorelix, derivs. 121181-53-1, Filgrastim 124389-07-7, Muramyltripeptide 127464-60-2, Vascular endothelial growth factor 127984-74-1, Somatuline 130209-82-4, Latanoprost 139639-23-9, Tissue plasminogen activator 141436-78-4, Protein kinase c 143011-72-7, Granulocyte colony stimulating factor 148717-90-2, Squalamine
(prepn. of solid porous matrixes for pharmaceutical uses)

L39 ANSWER 8 OF 20 HCA COPYRIGHT 2003 ACS
130:325 Autoxidation of pyridoxalated hemoglobin **polyoxyethylene** conjugate. Talarico, Todd; Swank, Adam; Privalle, Chris (Apex Bioscience, Inc., Research Triangle Park, NC, USA). Biochemical and Biophysical Research Communications, 250(2), 354-358 (English) 1998. CODEN: BBRCA9. ISSN: 0006-291X. Publisher: Academic Press.

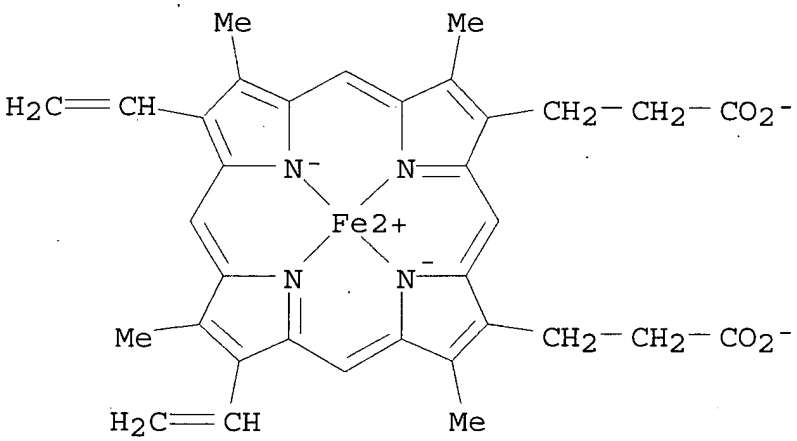
AB Hb-based therapeutics are currently in clin. trials in the United States and abroad as blood replacement solns., nitric oxide scavengers, and radiation sensitizers. The potency of the therapeutics may be influenced by the oxidn. state of the iron in the heme moiety. The oxidn. state is dependent upon the phys. environment of the mol. and is influenced by parameters such as the chem. nature of the Hb therapeutic and its formulation. Pyridoxalated Hb **polyoxyethylene** conjugate (PHP) is one such compd. currently in clin. trials in the U.S. for treatment of nitric oxide-dependent, vol. refractory shock. The autoxidn. rates for PHP have been detd. over a range of temps. The oxidn. events were shown to be biphasic and were similar to those obsd. for purified human Hb (HbAo). The initial fast oxidn. events were modeled with first order rate consts. at 37 and detd. to be 0.022 h-1 and 0.025 h-1 for PHP and HbAo, resp. The autoxidn. of PHP was shown to be independent of concn. from approx. 5 to 100 mg/mL. (c) 1998 Academic Press.

IT **14875-96-8**, Heme **25322-68-3D**, pyridoxalated Hb conjugates
(autoxidn. of pyridoxalated Hb **polyoxyethylene** conjugate)

RN 14875-96-8 HCA

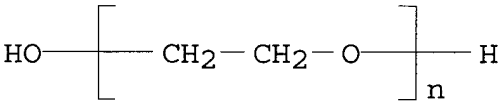
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-,

dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

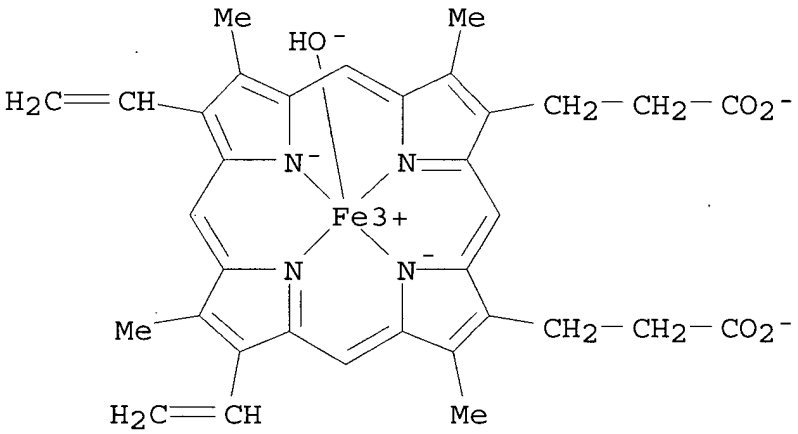
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



CC 1-8 (Pharmacology)
ST pyridoxalated Hb **polyoxyethylene** conjugate autoxidn
IT Autoxidation
Autoxidation kinetics
Blood substitutes
Radiosensitizers, biological
(autoxidn. of pyridoxalated Hb **polyoxyethylene** conjugate)
IT Hemoglobins
(autoxidn. of pyridoxalated Hb **polyoxyethylene** conjugate)
IT **Polyoxyalkylenes**, biological studies
(pyridoxalated Hb conjugates; autoxidn. of pyridoxalated Hb **polyoxyethylene** conjugate)
IT **14875-96-8**, Heme **25322-68-3D**, pyridoxalated Hb conjugates
(autoxidn. of pyridoxalated Hb **polyoxyethylene** conjugate)
IT 10102-43-9, Nitric oxide, biological studies
(scavengers; autoxidn. of pyridoxalated Hb

polyoxyethylene conjugate)

L39 ANSWER 9 OF 20 HCA COPYRIGHT 2003 ACS
129:85838 skin care agent containing iron chelating agent. Uehara, Shizuka; Kondo, Chiharu (Kosei Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10182407 A2 19980707 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-355681 19961224.
AB The skin care agent which results in no degrdn. of the chelating agent incorporates (a) ext. of Momordica grosvenori Swingle and (b) .gtoreq.1 iron chelating agent. A cosmetic lotion comprised glycerol 6, 1,3-butylene glycol 5.5, **polyoxyethylene** sorbitan monolaurate 1.5, EtOH 9, ext. of Momordica grosvenori 10, EDTA-2 Na 0.5. preservative, perfume, and water to 100%.
IT **15489-90-4**, **Hematin**
(skin care agent contg. ext. of Momordica grosvenori and iron chelating agent)
RN 15489-90-4 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM A61K007-48
ICS A61K007-00; A61K007-025; A61K007-035
CC 62-4 (Essential Oils and Cosmetics)
IT 60-00-4, EDTA, biological studies 66-71-7, o-Phenanthroline 67-43-6, Diethylenetriamine-N,N,N',N'',N''-pentaacetic acid 69-72-7, Salicylic acid, biological studies 70-51-9, DESFERRIOXAMINE 77-92-9, Citric acid, biological studies 139-33-3, EDTA disodium salt 3615-82-5, Phytin 7776-28-5, Calcium Phytate **15489-90-4**, **Hematin**
(skin care agent contg. ext. of Momordica grosvenori and iron

chelating agent)

L39 ANSWER 10 OF 20 HCA COPYRIGHT 2003 ACS

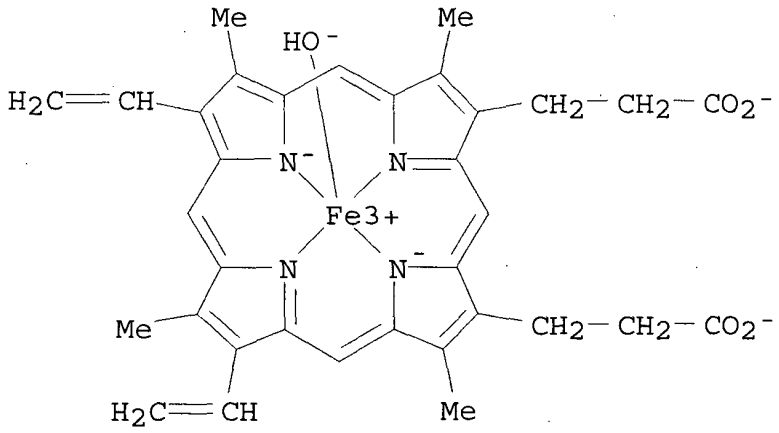
126:309662 Design and characterization of chemically modified electrodes with iron(III) porphyrinic-based polymers: study of their reactivity toward nitrites and nitric oxide in aqueous solution. Bedioui, Fethi; Trevin, Stephane; Albin, Valerie; Gomez Villegas, Maria Guadalupe; Devynck, Jacques (Laboratoire d'Electrochimie et de Chimie Analytique (URA no. 216 du CNRS), Ecole Nationale Superieure de Chimie de Paris, 11 rue Pierre et Marie Curie 75231, Paris, Fr.). Analytica Chimica Acta, 341(2-3), 177-185 (English) 1997. CODEN: ACACAM. ISSN: 0003-2670. Publisher: Elsevier.

AB This study gives new examples of iron porphyrin film electrodes prepd. either by electrochem. polymn. or by incorporation in pre-electropolymd. pyrrole derivs. It shows also the different kinds of interactions between nitric oxide, nitrites and the supported iron porphyrins in acidic and neutral aq. solns. It gives clear indications, by cyclic voltammetry and UV-visible spectrophotometry of the formation of the suggested iron-nitrosyl intermediate, [Fe(III)(NO)]+, in supported films.

IT **15489-90-4, Hematin**
(electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



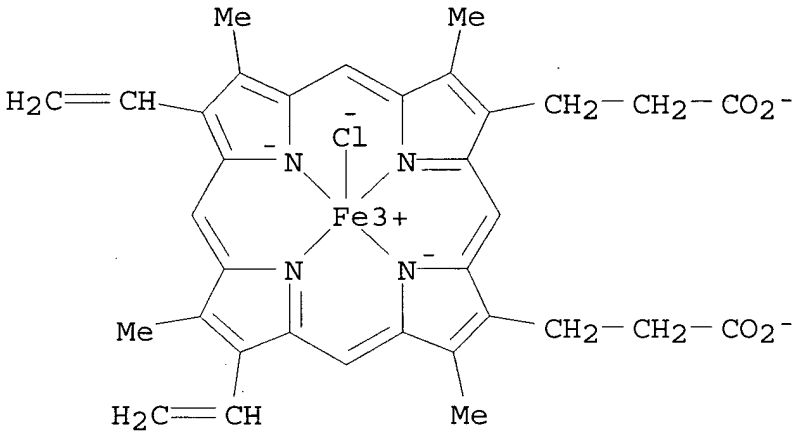
2 H^+

IT **16009-13-5**, Hemin

(electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IT **148860-56-4**

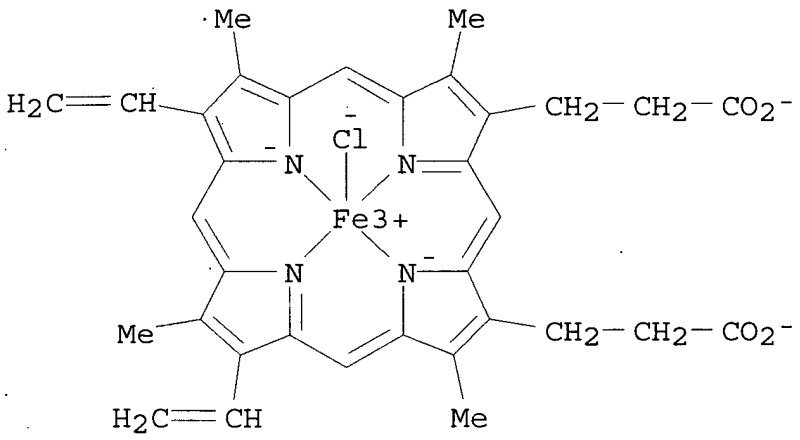
(formation by electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

RN 148860-56-4 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 16009-13-5
CMF C34 H30 Cl Fe N4 O4 . 2 H
CCI CCS



● 2 H^+

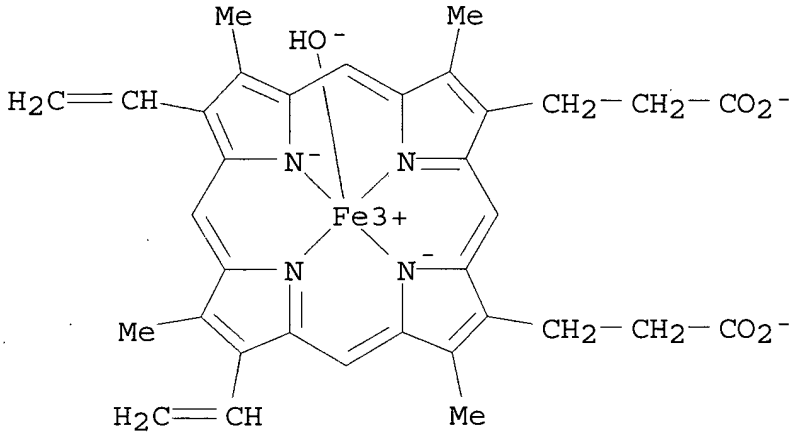
IT **189253-01-8**, Polyhematin
(formation by electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

RN 189253-01-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, (SP-5-13)-, dihydrogen, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 15489-90-4
CMF C34 H31 Fe N4 O5 . 2 H
CCI CCS



CC 72-2 (Electrochemistry)
Section cross-reference(s): 35, 36, 73, 78

IT **Polyoxyalkylenes**, uses
(fluorine- and sulfo-contg., ionomers; cyclic voltammetry of polyhemin electrode coated with Nafion in aq. phosphate-buffered saline soln. with and without nitric oxide)

IT **Polyoxyalkylenes**, uses
(fluorine-contg., sulfo-contg., ionomers; cyclic voltammetry of polyhemin electrode coated with Nafion in aq. phosphate-buffered saline soln. with and without nitric oxide)

IT Fluoropolymers, uses
Fluoropolymers, uses
(**polyoxyalkylene**-, sulfo-contg., ionomers; cyclic voltammetry of polyhemin electrode coated with Nafion in aq. phosphate-buffered saline soln. with and without nitric oxide)

IT Ionomers
(**polyoxyalkylenes**, fluorine- and sulfo-contg.; cyclic voltammetry of polyhemin electrode coated with Nafion in aq. phosphate-buffered saline soln. with and without nitric oxide)

IT **15489-90-4**, **Hematin** 71794-64-4 98312-40-4
(electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

IT **16009-13-5**, Hemin
(electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

IT **148860-56-4** 189253-05-2

(formation by electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

IT **189253-01-8**, Polyhematin
(formation by electrochem. polymn. and spectra: design and characterization of chem. modified electrodes with iron(III) porphyrinic-based polymers and study of reactivity toward nitrites and nitric oxide in aq. soln.)

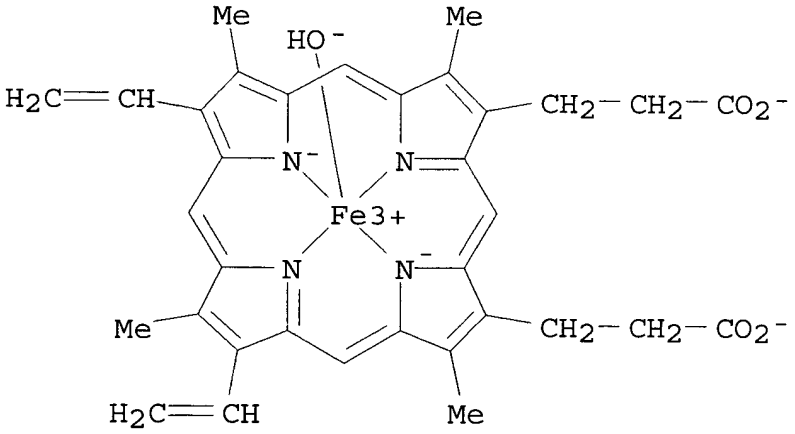
L39 ANSWER 11 OF 20 HCA COPYRIGHT 2003 ACS
121:30119 Determination of **hematin** with Nafion-modified graphite electrode. Lu, Xiandan; Li, Donghui; Zeng, Baizhao; Tan, E.; Zhou, Xingyao (Dep. Chem., Wuhan Univ., Wuhan, 430072, Peop. Rep. China). Wuhan Daxue Xuebao, Ziran Kexueban (2), 68-70, 74 (Chinese) 1993. CODEN: WTHPDI. ISSN: 0253-9888.

AB The electrochem. properties of **hematin** were investigated, and a new way to det. the trace amt. of **hematin** has been found. In the soln. of 0.12 mol/L potassium sodium tartrate, with the Nafion modified graphite electrode, a sensitive cathodic wave of **hematin** was obsd. at -0.65V. The height of deriv. wave was linear with the concn. of **hematin** from 1 .times. 10-7 to 1 .times. 10-5mol.cntdot.L-1. The influence of some coexistent on the height of the wave was investigated.

IT **15489-90-4**, **Hematin**
(detn. of, with Nafion-modified graphite electrode)

RN 15489-90-4 HCA

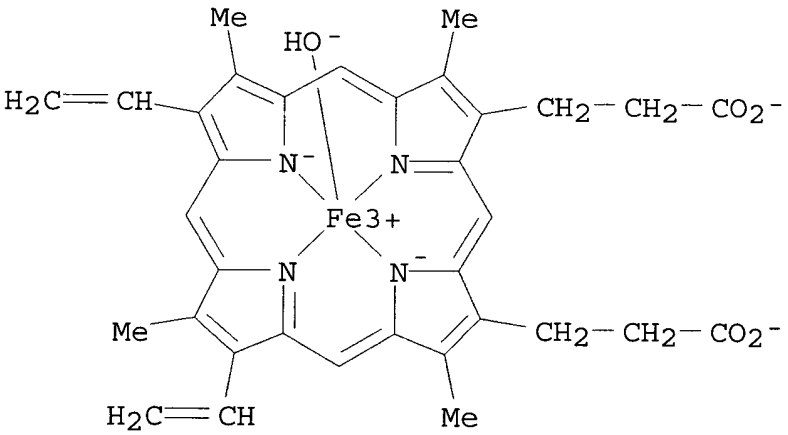
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



2 H^+

CC 9-1 (Biochemical Methods)
ST **hematin** Nafion modified graphite electrode
IT Electrodes
(nafion-modified graphite, detn. of **hematin** with)
IT Ionomers
(**polyoxyalkylenes**, fluorine- and sulfo-contg., -modified graphite electrode, detn. of **hematin** with)
IT **15489-90-4, Hematin**
(detn. of, with Nafion-modified graphite electrode)

L39 ANSWER 12 OF 20 HCA COPYRIGHT 2003 ACS
118:11499 Manufacture and use of hair dyes. Yaoi, Morimasa (Seiho Kikaku K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04208214 A2 19920729 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-336606 19901130.
AB A hair dye consists of (1) the 1st soln. contg. a metal, such as Fe, Cr, and Mn, an alc., and water, and (2) the 2nd soln. contg. a plant pigment (henna tannin, **hematin**, catechin, etc.), an alc., and water. For example, the 1st soln. was prepd. consisting of FeSO4 2, a pigment q.s., perfume q.s., and water 72, and cetanol 26 g, and the 2nd soln. consisting of **hematin** 2, pigment q.s., perfume q.s., water 65, and cetanol 33 g.
IT **15489-90-4, Hematin**
(hair dyes contg.)
RN 15489-90-4 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM A61K007-13
CC 62-3 (Essential Oils and Cosmetics)

IT 107-88-0, 1,3-Butanediol 154-23-4, Catechin (flavan) 7439-89-6, Iron, biological studies 7439-96-5, Manganese, biological studies 7440-47-3, Chromium, biological studies 7720-78-7, Ferrous sulfate **15489-90-4**, **Hematin** 31694-55-0, **Polyoxyethylene** glycerol
(hair dyes contg.)

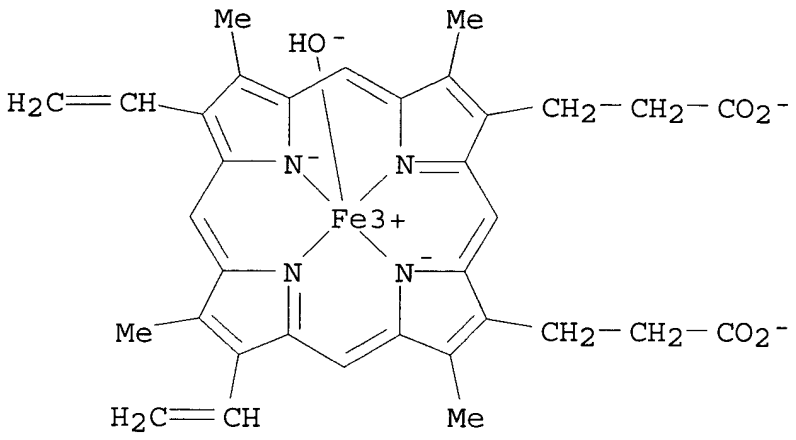
L39 ANSWER 13 OF 20 HCA COPYRIGHT 2003 ACS
117:219731 Hair dyes containing phenol compounds-containing shampoos and mordant-containing rinses. Miyamoto, Nobuo; Kurokawa, Hideo; Shinjo, Zentaro (Lion Corp., Japan). Jpn. Kokai Tokkyo Koho JP 04164017 A2 19920609 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-288381 19901029.

AB Hair dyes are composed of shampoos contg. gallic acid, tannic acid, salicylic acid, their derivs., pyrogallol, catechol, and/or **hematin** and surfactants as detergents and rinses contg. polyvalent metal salts and cationic polymers. Repeated use of the shampoos and rinses gradually dye hair without damage to hair and skin. Hair was repeatedly treated with a shampoo contg. Na .alpha.-olefinsulfonate 15, coco amidopropylbetaine 5, coco fatty acid diethanolamide 2, Pr gallate 0.2, Na2SO4 1.5, citric acid 0.2, BzONa 0.9, perfume 0.5 wt.%, colorant, and H2O balance and a rinse contg. cetostearyltrimethylammonium chloride 1.0, cetostearyl alc. 3.0 sorbitan monostearate 0.5, **polyoxyethylene** glyceryl pyroglutamate isostearate 0.5, propylene glycol 5.0, p-HOC6H4CO2Me 0.3, perfume 0.5 wt.%, colorant, and H2O balance 20 times to show good dyeing appearance.

IT **15489-90-4**, **Hematin**
(hair dyes contg. metal salts mordant-contg. rinses and shampoos contg. surfactants and)

RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

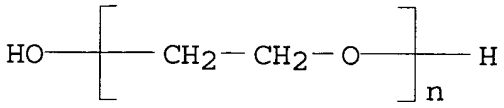


● 2 H^+

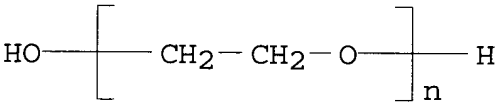
IC ICM A61K007-13
CC 62-3 (Essential Oils and Cosmetics)
IT 56-86-0D, L-Glutamic acid, N-cocoyl derivs., sodium salts 69-72-7, Salicylic acid, biological studies 87-66-1, Pyrogallol 120-80-9, Catechol, biological studies 121-79-9, Propyl gallate 149-91-7, Gallic acid, biological studies 149-91-7D, Gallic acid, alkyl esters 831-61-8, Ethyl gallate 9004-82-4 **15489-90-4**, **Hematin** 42926-22-7, Sodium N-lauroylglutamate
(hair dyes contg. metal salts mordant-contg. rinses and shampoos contg. surfactants and)

L39 ANSWER 14 OF 20 HCA COPYRIGHT 2003 ACS
116:243713 Matrix chain-length dependence of the electrochemistry of electroactive molecules in amorphous polymeric solvents. Shi, Gaoquan (Dep. Chem., Nanjing Univ., Nanjing, 210008, Peop. Rep. China). Journal of Physical Chemistry, 96(11), 4677-9 (English) 1992. CODEN: JPCHAX. ISSN: 0022-3654.
AB The matrix chain-length (Xn) dependence of the electrochem. of electroactive mols. (EAM) in polymeric solvents was discussed. Both theor. and exptl. results demonstrated that when Xn (E.degree.) of EAM was very large the cyclic voltammmetric current ip and std. redox potential (E0) of were related to Xn in the the following equations 1 and 2, resp., Lnip = K1 + K2/Xn (1) and E.degree. = E.degree.,* + K3/Xn (2) where E.degree.,*, K1, K2, and K3 are consts. which were independent of Xn.
IT **25322-68-3**, **Polyethylene oxide**
(cyclic voltammetry of hemin in polymer electrolyte from, with lithium perchlorate, chain-length effect on)
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA

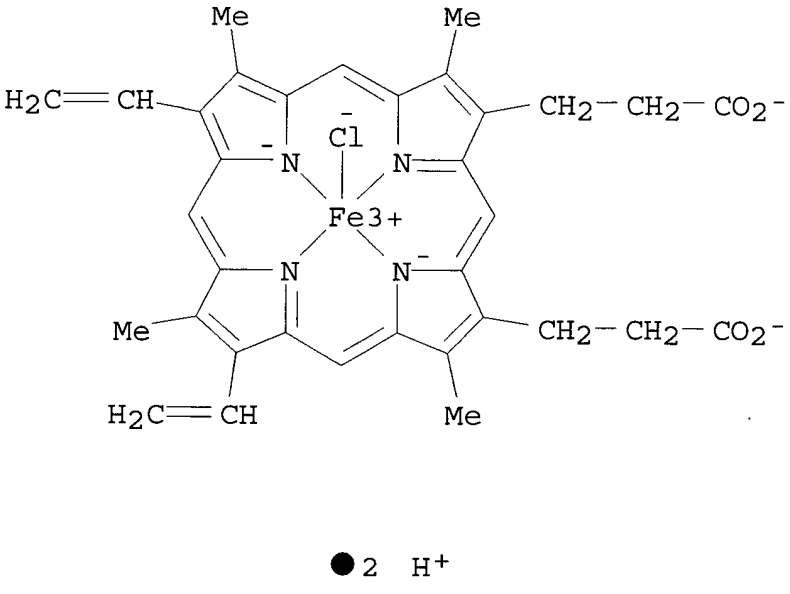
INDEX NAME)



IT **25322-68-3D, Polyethylene oxide**, sodium complexes
(cyclic voltammetry of hemin in polymeric electrolyte from, chain-length effect on)
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **16009-13-5**, Hemin
(redox reactions of, electrochem., in **polyethylene oxide**-lithium perchlorate polymeric system, chain-length effect on)
RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 72-2 (Electrochemistry)
Section cross-reference(s): 36

ST polymeric electrolyte cyclic voltammetry; peak current diffusion electrolyte chain length; hemin redox **polyethylene oxide** lithium perchlorate

IT Redox reaction
(electrochem., of hemin in **polyethylene oxide** -lithium perchlorate system, chain-length effect on)

IT 7791-03-9, Lithium perchlorate
(cyclic voltammetry of hemin in **polyethylene oxide** with, chain-length effect on)

IT **25322-68-3**, **Polyethylene oxide**
(cyclic voltammetry of hemin in polymer electrolyte from, with lithium perchlorate, chain-length effect on)

IT 7439-93-2D, Lithium, **polyethylene oxide** complex **25322-68-3D**, **Polyethylene oxide**, sodium complexes
(cyclic voltammetry of hemin in polymeric electrolyte from, chain-length effect on)

IT **16009-13-5**, Hemin
(redox reactions of, electrochem., in **polyethylene oxide**-lithium perchlorate polymeric system, chain-length effect on)

L39 ANSWER 15 OF 20 HCA COPYRIGHT 2003 ACS

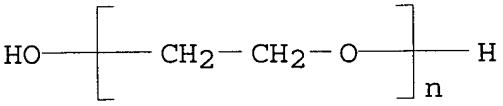
115:227838 Immobilization of biomolecules on **polyoxyalkylenes**. Kuehn, Manfred (Akademie der Wissenschaften der DDR, Germany). Ger. (East) DD 287951 A5 19910314, 5 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1989-332720 19890915.

AB Biomols. (e.g. enzymes) are immobilized on **polyoxyalkylenes**, their alkyl ethers, and their thiol derivs. The polymer is reacted with a ClCO2H ester at 0-150.degree. for 30 min-12 h in aq. and/or org. soln. (preferably at pH 5-12). The soln. is buffered or contains an acid-binding compd., e.g. tertiary amine. Thus, penicillin acylase was immobilized on **PEG** 6000 activated with N-(chlorocarbonyloxy)-5-norbornene-2,3-dicarboximide.

IT **25322-68-3D**, reaction products with chloroformic acid esters
(biomol. immobilization on)

RN 25322-68-3 HCA

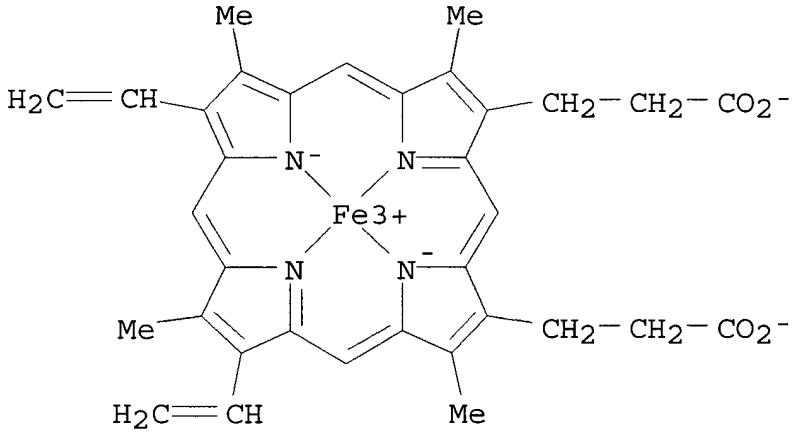
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **96946-08-6**
(immobilization of, on **PEG** deriv., chloroformic acid esters in)

RN 96946-08-6 HCA

CN Ferrate(1-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, hydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)

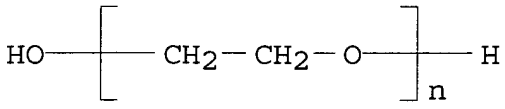


IC ICM C12N011-08
CC 9-14 (Biochemical Methods)
Section cross-reference(s): 7
ST biomol immobilization **polyoxyalkylene**; enzyme immobilization **polyoxyalkylene**
IT **Polyoxyalkylenes**, biological studies
(biomol. immobilization on, chloroformic acid esters in)
IT Trichosporon cutaneum
Hemoglobins
(immobilization of, on **PEG** deriv., chloroformic acid esters in)
IT Animal cell
Microorganism
Organelle
Pharmaceuticals
Plant cell
Antibodies
Antigens
Blood-coagulation factors
Coenzymes
Enzymes
Haptens
Hemoproteins
Hormones
Interferons
Vitamins
(immobilization of, on **polyoxyalkylenes**, chloroformic acid esters in)
IT Immobilization, biochemical
(of biomols. on **polyoxyalkylenes**)

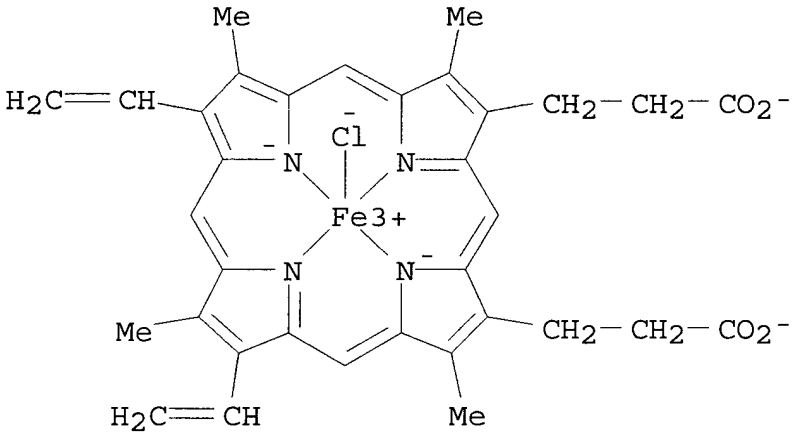
IT **Polyoxyalkylenes**, biological studies
(alkyl group-terminated, biomol. immobilization on, chloroformic acid esters in)
IT Molecules
(biochem., immobilization of, on **polyoxyalkylenes**, chloroformic acid esters in)
IT Albumins, compounds
Peptides, compounds
Proteins, specific or class
(conjugates, with **polyoxyalkylenes**, prepn. of, chloroformic acid esters in)
IT **Polyoxyalkylenes**, biological studies
(mercapto-terminated, biomol. immobilization on, chloroformic acid esters in)
IT Proteins, specific or class
(sugar-binding, conjugates, with **polyoxyalkylenes**, prepn. of, chloroformic acid esters in)
IT **25322-68-3D**, reaction products with chloroformic acid esters
(biomol. immobilization on)
IT 7693-46-1D, reaction products with **PEG**
(histamine immobilization on)
IT 51-45-6, Histamine, biological studies 53-84-9, NAD 9001-62-1, Lipase 9014-06-6, Penicillin acylase **96946-08-6**
(immobilization of, on **PEG** deriv., chloroformic acid esters in)
IT 9013-19-8, Isomerase 9027-41-2, Hydrolase 9047-61-4, Transferase 9055-15-6, Oxidoreductase
(immobilization of, on **polyoxyalkylenes**, chloroformic acid esters in)
IT 15149-73-2D, reaction products with dimercapto **PEG**
68865-60-1D, reaction products with N-(chlorocarbonyloxy)succinimide
(lipase immobilization on)
IT 99502-89-3D, reaction products with **PEG**
(penicillin acylase immobilization on)

L39 ANSWER 16 OF 20 HCA COPYRIGHT 2003 ACS
115:202769 Immobilization of biomolecules on quinone-derivatized **polyoxyalkylenes**. Kuehn, Manfred; Neumann, Barbara (Akademie der Wissenschaften der DDR, Germany). Ger. (East) DD 287952 A5 19910314, 4 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1989-332721 19890915.
AB Biomols. are immobilized on quinone-derivatized **polyoxyalkylenes** or their alkyl ethers by reaction in org. and/or aq. soln. at pH 2-12 and 0-50.degree., if necessary in the presence of a basic or an acidic catalyst, e.g. a tertiary amine. The quinone-derivatized polymer may be further modified with NH2 or SH groups. Thus, glucose oxidase was reacted with quinone-derivatized **PEG** at pH 8.0 for 20 h at 4.degree.. Activity of the final product was 0.7 units/mg.
IT **25322-68-3D**, **PEG**, reaction products with quinones
(biomol. immobilization on)
RN 25322-68-3 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **16009-13-5**, Hemin
(immobilization of, on quinone-derivatized dimercapto **PEG**
)
RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM C12N011-08
CC 9-14 (Biochemical Methods)
Section cross-reference(s): 7
ST biomol immobilization **polyoxyalkylene**; enzyme immobilization **polyoxyalkylene**
IT Alkali metal hydroxides
(as catalysts, in biomol. immobilization on quinone-derivatized **polyoxyalkylenes**)
IT Hemoglobins
(immobilization of, on benzoquinone-derivatized diamino **PEG**)
IT Animal cell
Microorganism
Organelle
Pharmaceuticals

Plant cell
Antibodies
Antigens
Blood-coagulation factors
Coenzymes
Enzymes
Haptens
Hemoproteins
Hormones
Interferons
Ligands
Vitamins
(immobilization of, on quinone-derivatized **polyoxyalkylenes**)

IT Immobilization, biochemical
(of biomols., on quinone-derivatized **polyoxyalkylenes**)

IT **Polyoxyalkylenes**, compounds
(alkyl group-terminated, reaction products, with quinones, biomol. immobilization on)

IT Molecules
(biochem., immobilization of, on quinone-derivatized **polyoxyalkylenes**)

IT Albumins, compounds
Peptides, compounds
Proteins, specific or class
(conjugates, with quinone-derivatized **polyoxyalkylenes**, prepn. of)

IT Heterocyclic compounds
(nitrogen, as catalysts, in biomol. immobilization on quinone-derivatized **polyoxyalkylenes**)

IT Quinones
(reaction products, with **polyoxyalkylenes**, biomol. immobilization on)

IT **Polyoxyalkylenes**, compounds
(reaction products, with quinones, biomol. immobilization on)

IT Proteins, specific or class
(sugar-binding, conjugates, with quinone-derivatized **polyoxyalkylenes**, prepn. of)

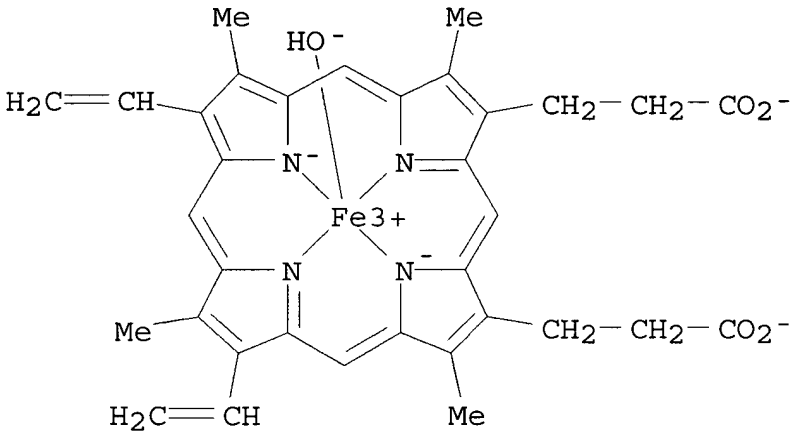
IT Amines, uses and miscellaneous
(tertiary, as catalysts, in biomol. immobilization on quinone-derivatized **polyoxyalkylenes**)

IT 64-19-7, Acetic acid, uses and miscellaneous 68-12-2, Dimethylformamide, uses and miscellaneous 110-86-1, Pyridine, uses and miscellaneous 463-79-6D, Carbonic acid, alkali metal salts 7446-70-0, Aluminum chloride (AlCl3), uses and miscellaneous 7646-85-7, Zinc chloride (ZnCl2), uses and miscellaneous 7664-93-9, Sulfuric acid, uses and miscellaneous
(as catalyst, in biomol. immobilization on quinone-derivatized **polyoxyalkylenes**)

IT 106-51-4D, Quinone, reaction products with **polyoxyalkylenes** **25322-68-3D, PEG**, reaction products with quinones
(biomol. immobilization on)

IT 7727-37-9
(heterocyclic compounds, nitrogen, as catalysts, in biomol. immobilization on quinone-derivatized **polyoxyalkylenes**)
IT 58-68-4, NADH 9001-37-0, Glucose oxidase 9014-06-6, Penicillin acylase
(immobilization of, on quinone-derivatized **PEG**)
IT 56-92-8, Histamine hydrochloride **16009-13-5**, Hemin
(immobilization of, on quinone-derivatized dimercapto **PEG**)
IT 9001-62-1, Lipase
(immobilization of, on quinone-derivatized methoxy mercapto **PEG**)
IT 9002-07-7, Trypsin
(immobilization of, on quinone-derivatized monomethoxy **PEG**)
IT 9013-19-8, Isomerase 9027-41-2, Hydrolase 9047-61-4, Transferase 9055-15-6, Oxidoreductase
(immobilization of, on quinone-derivatized **polyoxyalkylenes**)

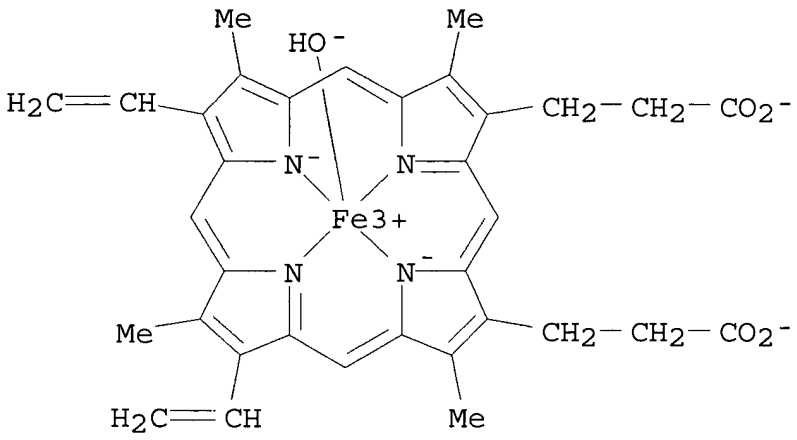
L39 ANSWER 17 OF 20 HCA COPYRIGHT 2003 ACS
114:49348 Hair dyes containing natural pigments. Mizumaki, Katsumi (Kashiwa Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02160716 A2 19900620 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-314704 19881213.
AB A hair dye contains a pigment extd. from bile, cacao, paprika, Dactylspius coccus, Monascus purpureus, Coccus lacca, Polygonus tinctrium, etc., and specific dyes such as capsaicin, carminic acid, and laccaic acid. An acidic shampoo-type hair dye contains glyceryl monolinolate 1.8, **polyoxyethylene polyoxypropylene glycol** 1.2, **polyethylene glycol** 4.0, berberine chloride 0.8, Cu chlorophyll Na 0.7, **hematin** 0.5, cochineal 1.5, citric acid 0.2, perfume 0.3, and water 89.0% by wt.
IT **15489-90-4**, **Hematin**
(hair dyes contg.)
RN 15489-90-4 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM A61K007-13
CC 62-3 (Essential Oils and Cosmetics)
IT 83-88-5, Riboflavin, uses and miscellaneous 404-86-4 482-89-3, Indigo 1260-17-9, Carminic acid 13283-90-4 **15489-90-4**, **Hematin** 18499-92-8, Kermesic acid 36338-96-2, Carthamin 60687-93-6, Laccaic acid 131641-72-0, Quercetin blue
(hair dyes contg.)

L39 ANSWER 18 OF 20 HCA COPYRIGHT 2003 ACS
111:239307 Manufacture of hair preparations containing **hematin** for darkening gray hair. Nakaoka, Katsuhiro (Seiho K. K., Japan; Ion Kagaku K. K.). Jpn. Kokai Tokkyo Koho JP 63303916 A2 19881212 Showa, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-141929 19870605.
AB A hair tonic contg. **hematin** is prepd. for treatment of gray hair, changing the hair to a darker color. A hair tonic contained **hematin** 0.2-0.4, .beta.-glycyrrhetinic acid 0.2, Pr 4-hydroxybenzoate 0.2, **polyoxyethylene** lanolin 1.5, 1,3-butylene glycol 2.0, **polyoxyethylene** cetyl ether 1.5, Cu Na chlorophyllin 0.005, Na ascorbate 0.05, a sol. S 0.1, trichlorohydroxydiphenyl ether 0.05, chamomilla ext. 1.0, sage ext. 1.0, aloe ext. 1.0, and H2O 91.195-90.995% by wt.
IT **15489-90-4**, **Hematin**
(hair tonics contg., for darkening of gray hair)
RN 15489-90-4 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

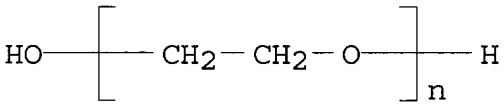


● 2 H^+

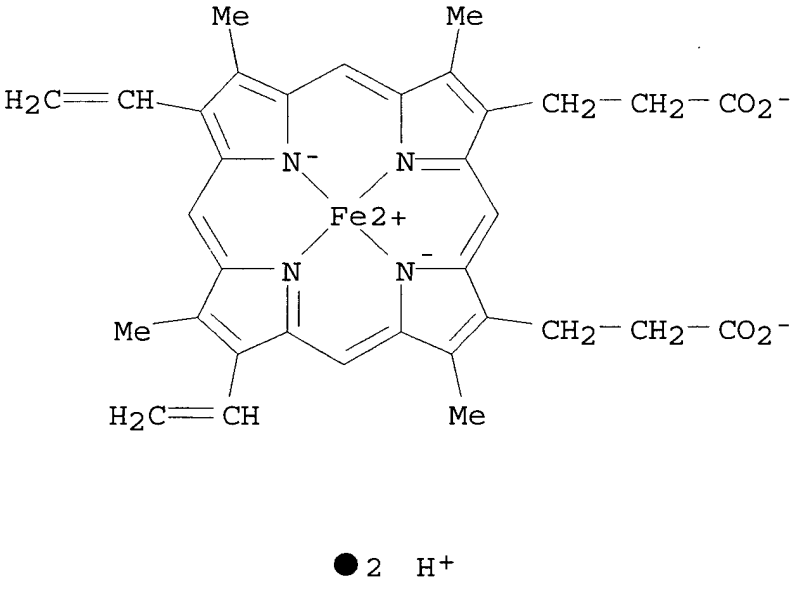
IC ICM A61K007-06
CC 62-3 (Essential Oils and Cosmetics)
ST hair tonic **hematin**
IT Hair preparations
(tonics, contg. **hematin** for darkening gray hair)
IT 471-53-4 11006-34-1
(hair tonics contg. **hematin** and)
IT **15489-90-4**, **Hematin**
(hair tonics contg., for darkening of gray hair)

L39 ANSWER 19 OF 20 HCA COPYRIGHT 2003 ACS
106:140553 Collecting dissolved oxygen from water. Shimada, Hideo; Nihei, Hiroyuki (Mitsui Engineering and Shipbuilding Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 61291404 A2 19861222 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-132925 19850620.
AB Hb, modified Hb, myoglobin, modified myoglobin, heme or modified heme, metal complex and/or polymeric metal complex, which has O-donating or -accepting properties, is fixed to a photocurable prepolymer, formed into a belt shape and used for adsorbing the dissolved O in water. The adsorbed O is recovered by passing the belt-shape body through an aq. soln. contg. oxidizing agent and the belt-body is regenerated by another aq. soln. contg. reducing agent. The O-adsorption-desorption method is particularly useful in artificial lungs for divers. Thus, 0.5 g ethylene glycol prepolymer contg. acryloyl functional groups and 0.005 g benzoin Et ether as the photosensitizer were dissolved in 0.25 mL H3PO4 soln. at 50-60.degree., cooled to room temp., then mixed with 1.0 mL Hb, and cured 5 min to form a polymer. When it was kept in deionized water at 20.degree., it adsorbed 95% of the dissolved O. The polymer was then treated with K3Fe(CN)6 aq. soln. to recover the adsorbed O.

IT **25322-68-3D, Polyethylene glycol,** acryloyl-functionalized
(Hb supported on, oxygen adsorbent, for artificial gill)
RN 25322-68-3 HCA
CN Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (9CI) (CA INDEX NAME)



IT **14875-96-8**
(polymer-supported, adsorbent for dissolved oxygen in water, for artificial gills)
RN 14875-96-8 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM C01B013-02
ICS B01D015-00; B01J020-24; C02F001-28
CC 49-9 (Industrial Inorganic Chemicals)
Section cross-reference(s): 9, 38, 61
ST Hb **polyethylene glycol** complex oxygen adsorbent; myoglobin polymer complex oxygen adsorbent; heme polymer complex oxygen adsorbent; diver artificial gill oxygen adsorbent
IT **25322-68-3D, Polyethylene glycol,** acryloyl-functionalized
(Hb supported on, oxygen adsorbent, for artificial gill)
IT **14875-96-8**

(polymer-supported, adsorbent for dissolved oxygen in water, for artificial gills)

L39 ANSWER 20 OF 20 HCA COPYRIGHT 2003 ACS

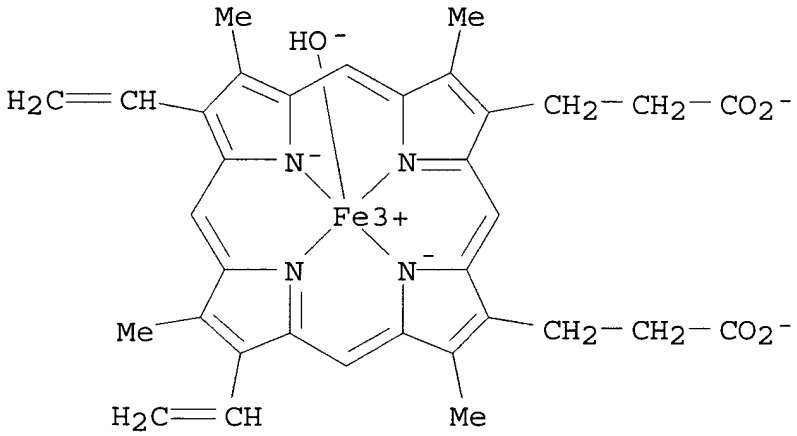
98:103288 Placental monooxygenation: characteristics and partial purification of a **hematin**-activated human placental monooxygenase. Namkung, Moses J.; Chao, Stella T.; Juchau, Mont R. (Sch. Med., Univ. Washington, Seattle, WA, USA). Drug Metabolism and Disposition, 11(1), 10-14 (English) 1983. CODEN: DMDSAI. ISSN: 0090-9556.

AB Human placental monooxygenase activities were markedly increased after addns. of micromolar quantities of **hematin**. The magnitude of the increases diminished with increasing (induced) levels of **hematin**-independent activity. The activating effect of **hematin** could be obsd. in unbroken cell prepns., in whole homogenates, and in various subcellular fractions. Highest **hematin**-dependent activity was measured in microsomal fractions of placental homogenates. With benzo[a]pyrene as substrate, response to the stimulatory effect of **hematin** in human placental prepns. was not as profound as that obsd. in monkey or rabbit placentas but was more marked than the responses obsd. in placental prepns. from rats or mice. **Hematin** -activated monooxygenase activity present in washed microsomal fractions of human placental homogenates could be solubilized with detergents, the most effective of which was Triton N-101. The solubilized activity also could be partially purified by **PEG** fractionation. Attempts to further purify the enzyme, however, resulted in loss of activity. All results were consistent with the hypothesis that the effect of **hematin** is mediated via reconstitution of **hematin**-free apocytochrome(s) P 450.

IT **15489-90-4**
(benzo[a]pyrene monooxygenase of placental microsomes of human and other animals response to)

RN 15489-90-4 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]hydroxy-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 7-2 (Enzymes)
Section cross-reference(s): 13

IT Placenta
(benzo[a]pyrene monooxygenase of microsome of, of human and other animals, partial purifn. and **hematin** activation of)

IT Microsome
(benzo[a]pyrene monooxygenase of, of placenta of human and other animals, partial purifn. and **hematin** activation of)

IT **15489-90-4**
(benzo[a]pyrene monooxygenase of placental microsomes of human and other animals response to)

IT 9037-52-9P
(of placenta microsomes, of human and other animals, partial purifn. and **hematin** activation of)

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L40 ANSWER 1 OF 13 HCA COPYRIGHT 2003 ACS

131:268961 Crystallization and preliminary x-ray diffraction analysis of a recombinant bacterial heme oxygenase (Hmu O) from Corynebacterium diphtheriae. Chu, Grace C.; Park, Sam-Yong; Shiro, Yoshitsugu; Yoshida, Tadashi; Ikeda-Saito, Masao (Department of Physiology and Biophysics, Case Western Reserve University School of Medicine, Cleveland, OH, 44106-4970, USA). Journal of Structural Biology, 126(2), 171-174 (English) 1999. CODEN: JSBIEM. ISSN: 1047-8477. Publisher: Academic Press.

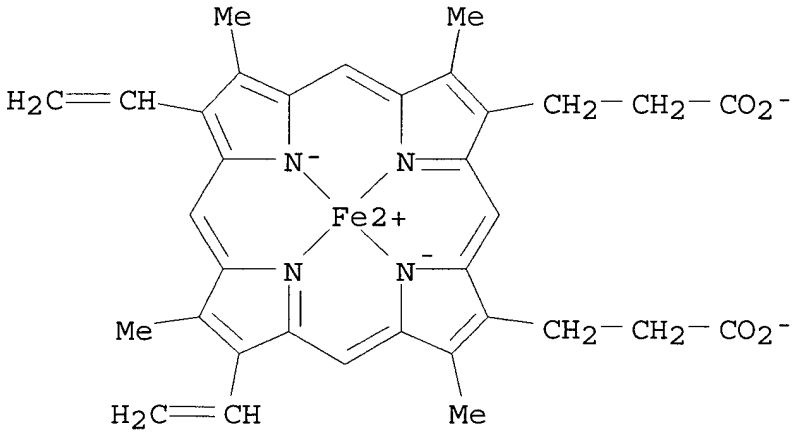
AB HmuO is a 24-kDa sol. bacterial heme oxygenase found in the pathogen C. diphtheriae, the causative agent of diphtheria. Similar to mammalian heme oxygenase, it binds hemin stoichiometrically and

catalyzes the O2-dependent conversion of hemin to biliverdin, CO, and free Fe. Fe is an essential nutrient for bacteria and esp. important for pathogenesis. Here, the authors report the 1st crystn. and preliminary crystallog. study of the heme-HmuO complex formed from hemin and recombinant HmuO, which was expressed in Escherichia coli from a synthetic gene based on the putative hmuO gene sequence. Crystals of the heme-HmuO complex were obtained by the sitting drop vapor diffusion method using a precipitant soln. contg. 18% **PEG** 8000 and 0.2M Ca(OAc)2 in 0.1M Na cacodylate (pH 6.5). Using synchrotron radiation, the heme-HmuO crystal diffracted to 2.8 .ANG. resoln. It belonged to monoclinic space group C2, with unit cell parameters a = 123.18, b = 44.51, c = 92.10 .ANG., and .beta. = 123.3.degree.. Assuming 1 mol. of the heme-HmuO complex per asym. unit, the calcd. value of Vm was 2.89 .ANG.3/Da. (c) 1999 Academic Press.

IT **14875-96-8D**, Heme, complexes with heme oxygenase
(crystn. and preliminary x-ray diffraction anal. of recombinant Corynebacterium diphtheriae heme oxygenase-heme complex)

RN 14875-96-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 7-5 (Enzymes)
Section cross-reference(s): 75

IT 9059-22-7D, Heme oxygenase, complexes with heme **14875-96-8D**, Heme, complexes with heme oxygenase
(crystn. and preliminary x-ray diffraction anal. of recombinant Corynebacterium diphtheriae heme oxygenase-heme complex)

L40 ANSWER 2 OF 13 HCA COPYRIGHT 2003 ACS

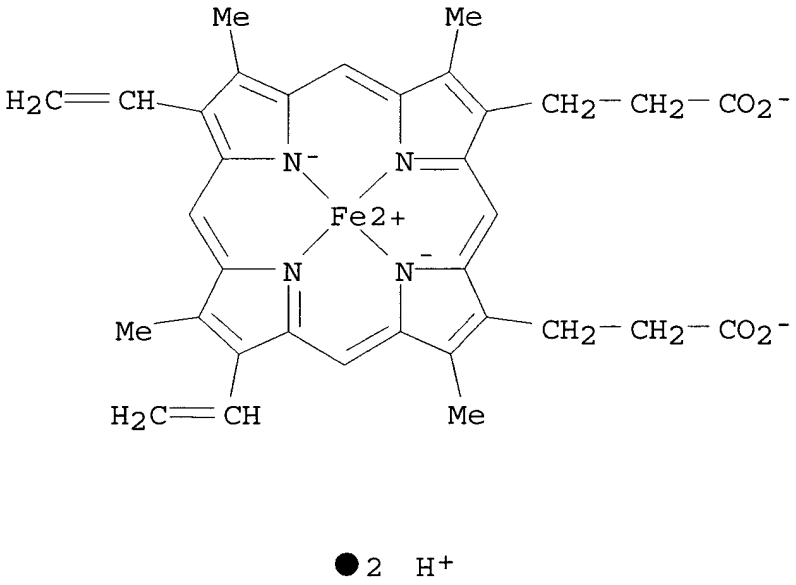
129:341206 Crystallization and preliminary x-ray diffraction studies on the water soluble form of rat heme oxygenase-1 in complex with heme. Omata, Yoshiaki; Asada, Shinya; Sakamoto, Hiroshi; Fukuyama, Keiichi; Noguchi, Masato (Department of Medical Biochemistry, Kurume University School of Medicine, Kurume, 830-0011, Japan). Acta Crystallographica, Section D: Biological Crystallography, D54(5), 1017-1019 (English) 1998. CODEN: ABCRE6. ISSN: 0907-4449. Publisher: Munksgaard International Publishers Ltd..

AB The water-sol. portion of rat heme oxygenase-1 (I) which lacks 22 hydrophobic amino acid residues at the C-terminus was expressed in Escherichia coli and crystd. in the form of a complex with heme by the vapor-diffusion method using **polyethylene glycol** 4000 as the precipitant. The crystals belonged to the tetragonal space group P41212 or P43212, with unit-cell dimensions of a = b = 56.7 and c = 186.7 .ANG.. The crystal contained 1 I-heme complex in an asym. unit and diffracted x-rays beyond 3.0 .ANG. resoln. with a conventional x-ray source.

IT **14875-96-8D**, Heme, complexes with heme oxygenase-1 deletion mutant
(crystn. and crystal structure of the water sol. form of rat heme oxygenase-1 complexed with heme)

RN 14875-96-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



CC 7-5 (Enzymes)
Section cross-reference(s): 75

IT **14875-96-8D**, Heme, complexes with heme oxygenase-1 deletion mutant
(crystn. and crystal structure of the water sol. form of rat heme

oxygenase-1 complexed with heme)

L40 ANSWER 3 OF 13 HCA COPYRIGHT 2003 ACS
127:106334 Interference free biosensor. Henning, Timothy P.; Spring, Thomas G. (Abbott Laboratories, USA). PCT Int. Appl. WO 9722715 A1 19970626, 22 pp. DESIGNATED STATES: W: CA, JP; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1996-US18889 19961125. PRIORITY: US 1995-563728 19951218.

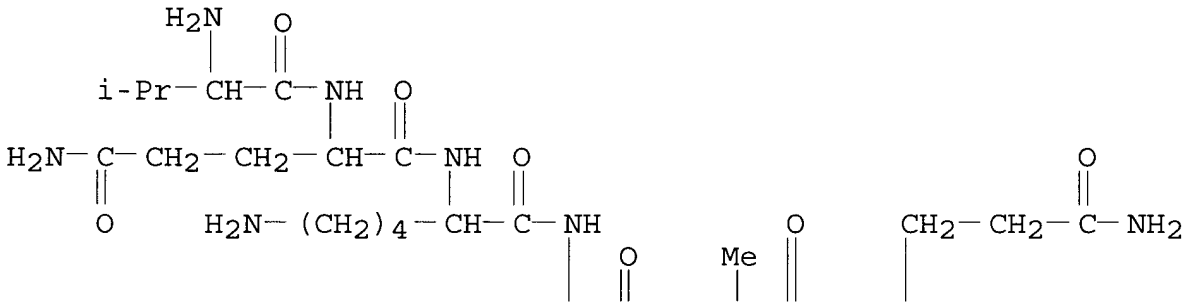
AB Provided are microparticle forms of carbon, carbon catalysts (e.g., platinized carbon, Ru contg. carbon, etc.), and carbon-contg. elec. conductive compds. (e.g., polypyrrole, polyaniline) which are covalently linked to peroxidase. The carbon:peroxidase conjugates are suitable for use as substrates in conventional electrodes for the detn. of, e.g., glucose or lactate in blood serum. Surprisingly, the conjugates display very little sensitivity to known interfering substances (e.g., acetaminophen) and thus are suitable for use as interference-free electrodes.

IT **30975-71-4D**, conjugates with carbon compds.
(interference-free electrodes from peroxidase-carbon conjugates)

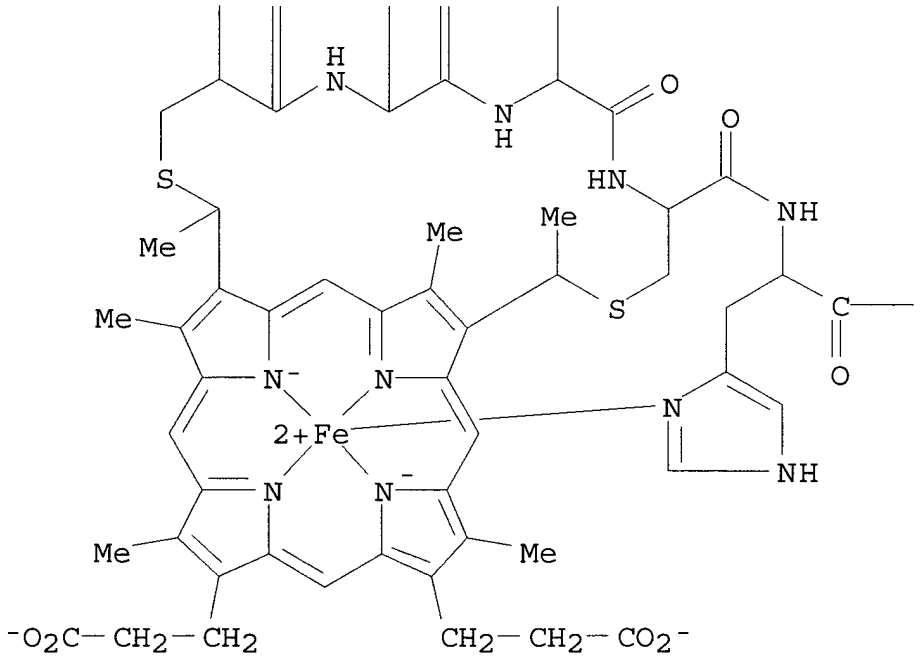
RN 30975-71-4 HCA

CN Ferrate(4-), [L-valyl-L-glutaminyl-L-lysyl-L-cysteinyl-L-alanyl-L-glutaminyl-L-cysteinyl-L-histidyl-.kappa.N-L-threonyl-L-valyl-L-glutamic acid cyclic (4.fwdarw.12'),(7.fwdarw.7')-bis(thioether) with 7,12-bis(1-mercaptoethyl)-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(6-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, tetrahydrogen (9CI) (CA INDEX NAME)

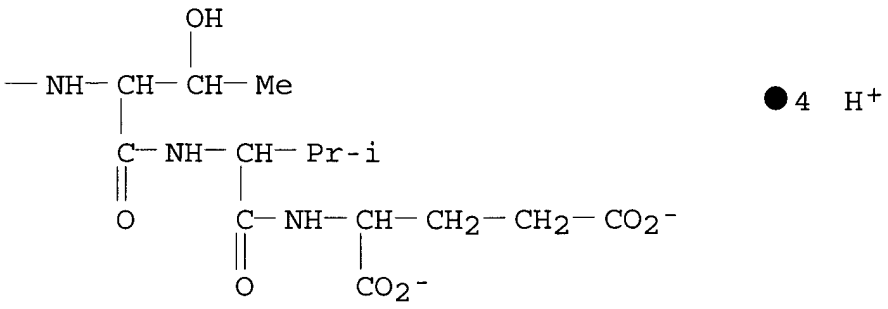
PAGE 1-A



PAGE 2-A



PAGE 2-B



● 4 H^+

IC ICM C12Q001-28
ICS C12Q001-54; G01N027-327
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 13, 14, 72
IT **Polyoxyalkylenes**, reactions

Polyoxyalkylenes, reactions
(polyamine-; interference-free electrodes from peroxidase-carbon conjugates)

IT Polyamines
Polyamines
(**polyoxyalkylene**-; interference-free electrodes from peroxidase-carbon conjugates)

IT 9003-99-0D, Peroxidase, conjugates with carbon compds.
30975-71-4D, conjugates with carbon compds.
(interference-free electrodes from peroxidase-carbon conjugates)

L40 ANSWER 4 OF 13 HCA COPYRIGHT 2003 ACS
126:273993 Preparation, purification, and characterization of **poly**(**ethylene glycol**)-modified microperoxidase-11. Mak, Kwai Dzy; Nuan, Jing Liu; Liang, LiCi; Zhou, Xing Qi; Mabrouk, P. A. (Dep. Chem., Northeastern Univ., Boston, MA, 02115, USA). Polymer Preprints (American Chemical Society, Division of Polymer Chemistry), 38(1), 580-581 (English) 1997. CODEN: ACPPAY. ISSN: 0032-3934. Publisher: American Chemical Society, Division of Polymer Chemistry.

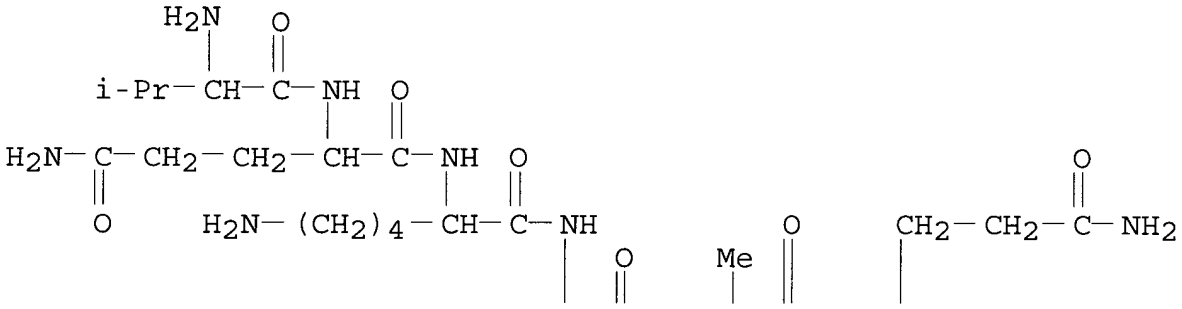
AB The authors report here the spectroscopic and electrochem. characteristics of **poly**(**ethylene glycol**)-modified microperoxidase-11, which was intended to use as a model system in the spectrochem. of oxyferryl peroxidase intermediates at solid electrodes.

IT **30975-71-4DP**, **poly**(**ethylene glycol**)-modified
(prepn., purifn., and characterization of **poly**(**ethylene glycol**)-modified microperoxidase-11)

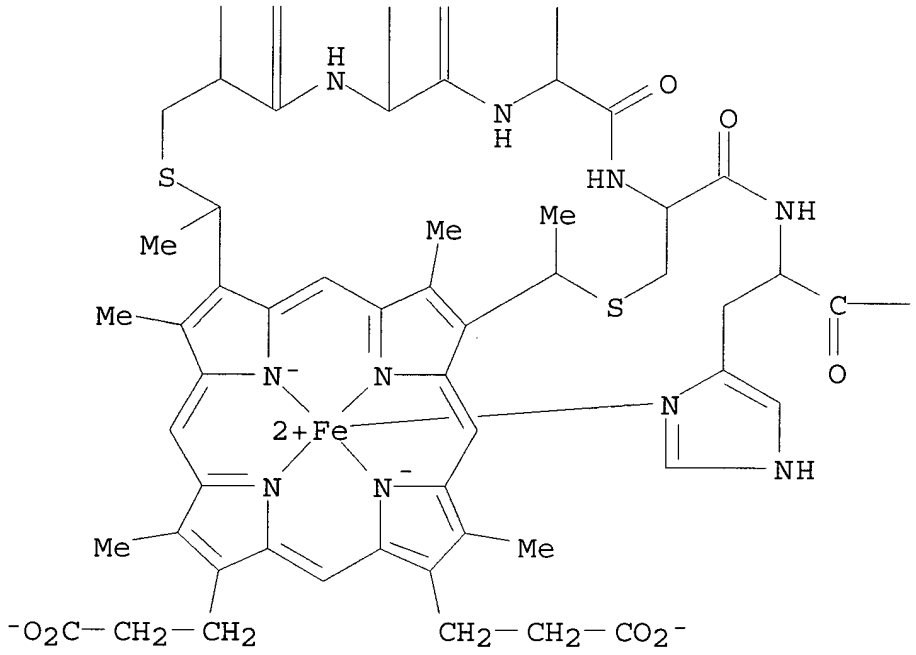
RN 30975-71-4 HCA

CN Ferrate(4-), [L-valyl-L-glutaminyl-L-lysyl-L-cysteinyl-L-alanyl-L-glutaminyl-L-cysteinyl-L-histidyl-.kappa.N-L-threonyl-L-valyl-L-glutamic acid cyclic (4.fwdarw.12'),(7.fwdarw.7')-bis(thioether) with 7,12-bis(1-mercaptoethyl)-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(6-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, tetrahydrogen (9CI) (CA INDEX NAME)

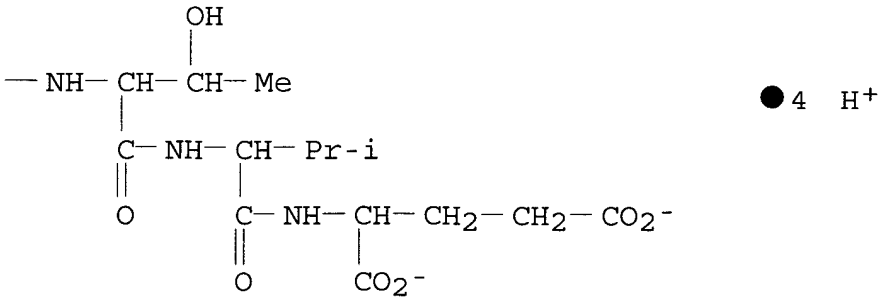
PAGE 1-A



PAGE 2-A



PAGE 2-B



CC 7-2 (Enzymes)
ST **poly ethylene glycol** microperoxidase oxyferryl peroxidase
IT 9003-99-0D, Peroxidase, oxyferryl intermediates (prepn., purifn., and characterization of **poly**(

ethylene glycol)-modified microperoxidase-11)

IT **30975-71-4DP**, **poly**(**ethylene glycol**)-modified
(prepn., purifn., and characterization of **poly**(**ethylene glycol**)-modified microperoxidase-11)

L40 ANSWER 5 OF 13 HCA COPYRIGHT 2003 ACS

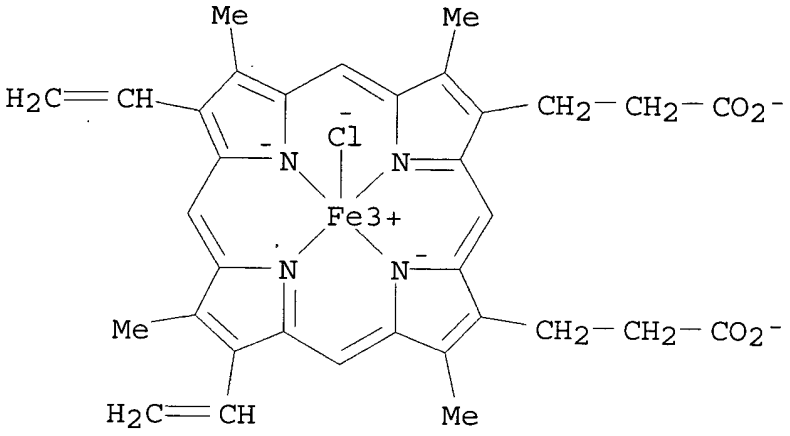
124:245347 Surface Anisotropic Electroreflectance Response at an Edge-Plane Pyrolytic Graphite Electrode. Sagara, Takamasa; Nomaguchi, Hiroshi; Nakashima, Naotoshi (Department of Applied Chemistry, Nagasaki University, Bunkyo, 852, Japan). Journal of Physical Chemistry, 100(16), 6393-6 (English) 1996. CODEN: JPCHAX. ISSN: 0022-3654. Publisher: American Chemical Society.

AB The potential-modulated UV-visible reflectance (electroreflectance, ER) spectrum measured with linearly polarized incident light at an edge-plane graphite (EPG) electrode with adsorbed redox species shows surface anisotropy. At a hemin or methylene blue-adsorbed EPG electrode, s-polarized incident light gave rise to greater ER response than p-polarized when the c axis of the graphite electrode is parallel to the plane of incidence, while when the c axis is perpendicular to the plane of incidence p-polarized light gave rise to greater response. The anisotropy was obsd. for an EPG electrode coated with a Nafion film in which adsorptive species was incorporated. Methylviologen-incorporated Nafion films did not produce the anisotropy. The possible origin of the anisotropy was discussed in light of the surface morphol. of the EPG as obsd. by the SEM.

IT **16009-13-5**, Hemin **16009-13-5D**, Hemin, complex with aminopropylimidazole
(surface anisotropic electroreflectance response at edge-plane pyrolytic graphite electrode contg. adsorbed)

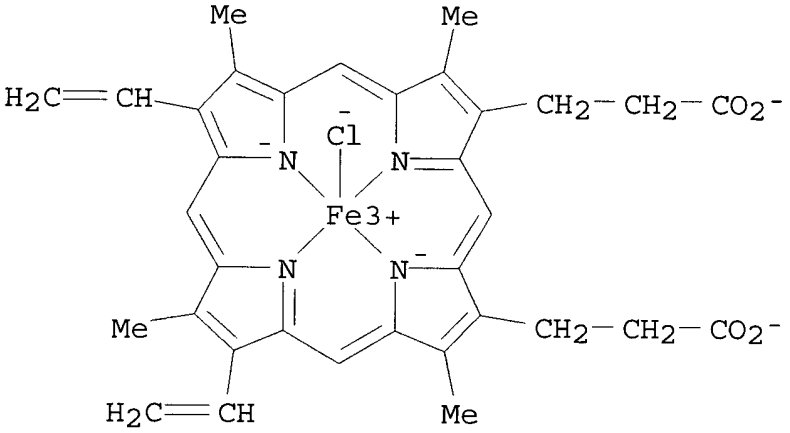
RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 72, 76
IT **Polyoxyalkylenes**, properties

(fluorine- and sulfo-contg., ionomers, surface anisotropic electroreflectance response at edge-plane pyrolytic graphite electrode contg. adsorbed)

IT Fluoropolymers
(**polyoxyalkylene**-, sulfo-contg., ionomers, surface anisotropic electroreflectance response at edge-plane pyrolytic graphite electrode contg. adsorbed)

IT Ionomers
(**polyoxyalkylenes**, fluorine- and sulfo-contg., surface anisotropic electroreflectance response at edge-plane pyrolytic graphite electrode contg. adsorbed)

IT 61-73-4, Methylene blue 5036-48-6D, 1-(3-Aminopropyl)imidazole, complex with hemin **16009-13-5**, Hemin **16009-13-5D**, Hemin, complex with aminopropylimidazole
(surface anisotropic electroreflectance response at edge-plane pyrolytic graphite electrode contg. adsorbed)

L40 ANSWER 6 OF 13 HCA COPYRIGHT 2003 ACS

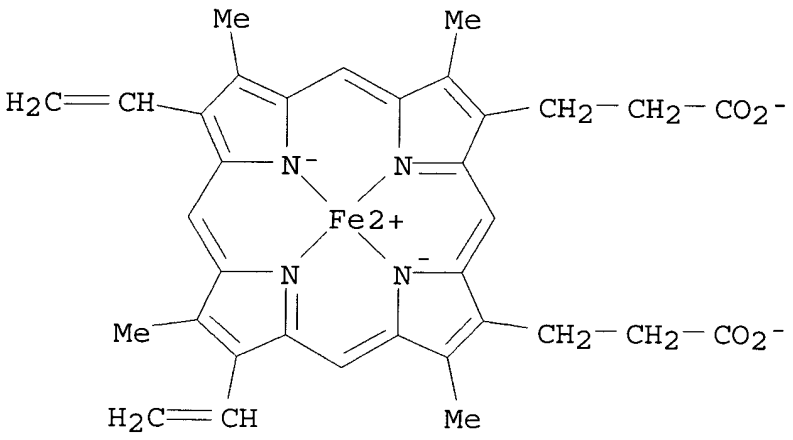
123:137783 Towards an electrochemically modulated chromatographic stationary phase. Lam, Philippe; Elliker, Peter R.; Wnek, Gary E.; Przybycien, Todd M. (Department of Chemical Engineering, Isermann Bioseparations Research Center, Rensselaer Polytechnic Institute, Troy, NY, 12180-3590, USA). Journal of Chromatography, A, 707(1), 29-33 (English) 1995. CODEN: JCRAEY. ISSN: 0021-9673. Publisher: Elsevier.

AB The authors have identified heme as a novel stable functional group for an electromodulated chromatog. stationary phase targeted for biosepns. Preliminary expts. with a heme-agarose column show that .beta.-lactoglobulin exhibits differential binding towards the two redox states of heme. The authors have also developed a tentative chem. coupling procedure suitable for covalent immobilization of heme onto a conductive glassy carbon electrode via a **polyethylene glycol** spacer arm as a necessary first step towards the development of an electrochem. chromatog. system.

IT **14875-96-8D**, Heme, conjugates with agarose
(towards electrochem. modulated chromatog. stationary phase)

RN 14875-96-8 HCA

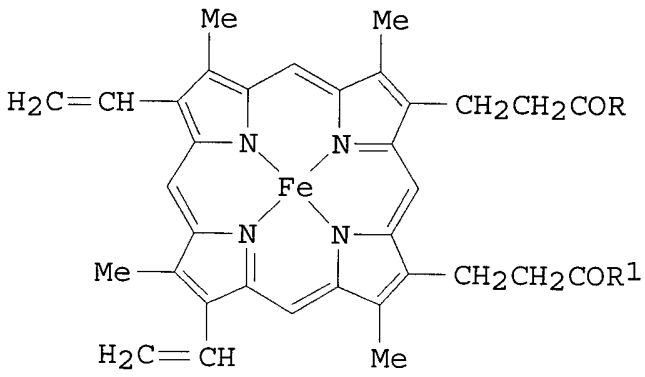
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 9-3 (Biochemical Methods)
IT **14875-96-8D**, Heme, conjugates with agarose
(towards electrochem. modulated chromatog. stationary phase)

L40 ANSWER 7 OF 13 HCA COPYRIGHT 2003 ACS
119:138982 Preparation of modified porphyrins or complexes of (un)modified porphyrins with chemically (un)modified plasma proteins as anti-HIV drugs. Mizumoto, Kenji; Tsuboi, Hiroshi; Miyajima, Hideki; Fujimoto, Hiroshi; Ajisaka, Katsumi; Fujiki, Yukio; Tsunoo, Hajime (Meiji Milk Products Co., Ltd., Japan). PCT Int. Appl. WO 9303035 A1 19930218, 76 pp. DESIGNATED STATES: W: AU, CA, JP, KR, US; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IT, LU, MC, ML, MR, NL, SE, SN, TD, TG. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1992-JP977 19920731. PRIORITY: JP 1991-194452 19910802; JP 1992-63492 19920319.
GI



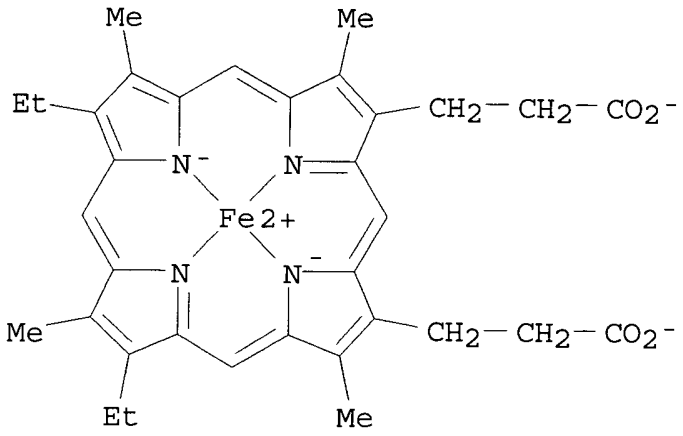
I

AB The present invention consists of an anti-HIV drug contg. at least one porphyrin deriv. selected from the following groups (A) and (B) as the active ingredient: (A) porphyrins modified with compds. selected from carbodiimides, alkylenediamines, and alcs., and (B) complexes between plasma proteins or chem. modified plasma proteins and porphyrins which may be modified with compds. selected from carbodiimides, alkylenediamines, and alcs. The drug is useful for preventing and treating AIDS due to the excellent activity of killing HIV-infected cells, inhibiting cell injury caused by HIV infection, and inhibiting HIV replication, and shows low toxicity. Thus, 30 g hemin and 45 g 1-ethyl-2-(3-diethylaminopropyl)carbodiimide were dissolved in o.1 M Na2B4O7 (pH 9.6), stirred at room temp. for 30 min, dialyzed against ion-exchanged H2O, and freeze-dried to give 36.52 g dry powder which was purified by centrifugal partition chromatog. and then silica gel chromatog. to give 4.88 g a mixt. of hemin amides I [R = OH, R1 = N[(CH2)3NMe2]CONHEt] and I [R = N[(CH2)3NMe2]CONHEt, R1 = OH]. I at 1.2 .mu.g/mL in vitro showed 0% survival rate of MOLT-4 cells infected with HTLV-IIIB virus vs. 43, 79, and 37% that of PBL, IMR-90, and WI-38 normal cells, resp. Approx. 30 porphyrin derivs. and their conjugates with human serum albumins were prepd. and similarly tested.

IT **18040-04-5P**, Iron mesoporphyrin
(prepn. and amidation of, with ethyl(diethylaminopropyl)carbodiimide)

RN 18040-04-5 HCA

CN Ferrate(2-), [7,12-diethyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)

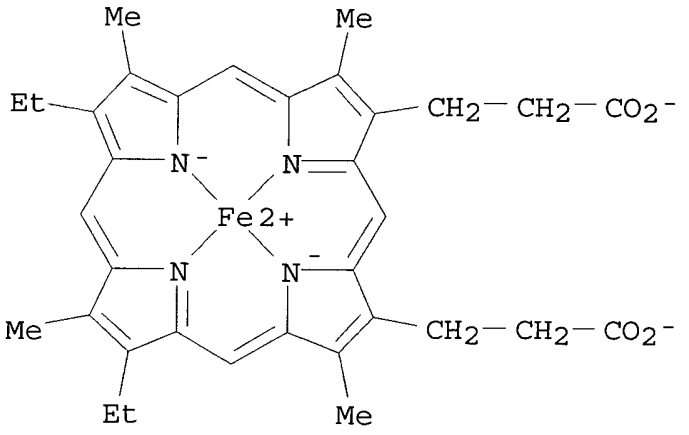


● 2 H^+

IT **18040-04-5DP**, Iron mesoporphyrin, amide with ethyl(dimethylaminopropyl)dicarbodiimide, conjugate with human serum albumin
(prepn. of, as anti-HIV drug)

RN 18040-04-5 HCA

CN Ferrate(2-), [7,12-diethyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)

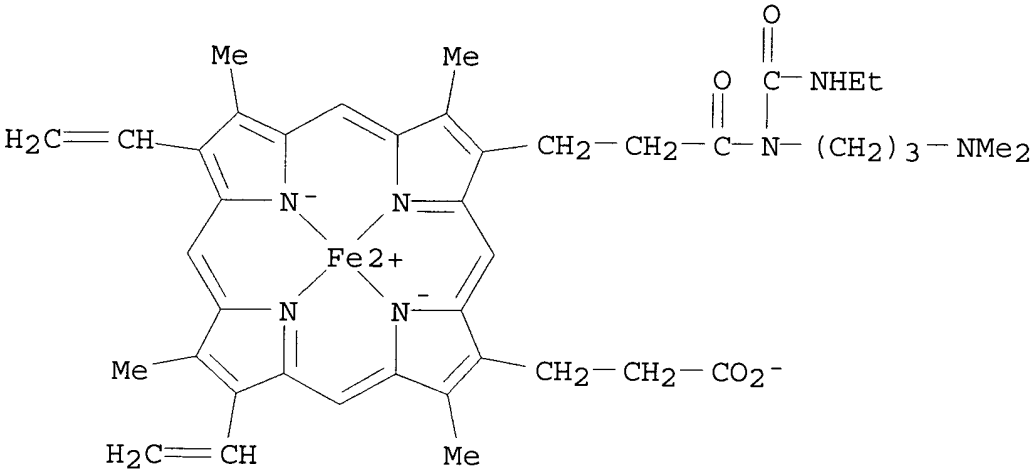


● 2 H^+

IT **149753-76-4P 149753-78-6P 149753-79-7P 149753-80-0P 149753-99-1P 149754-00-7P**

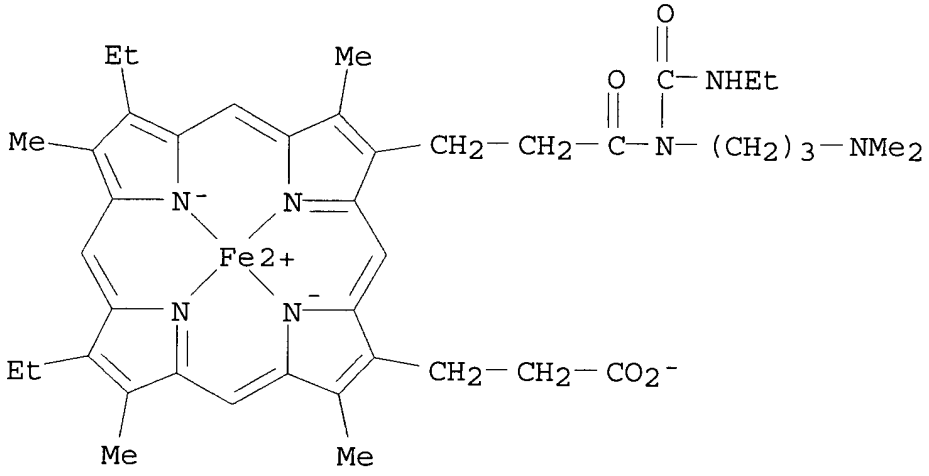
149754-01-8P 149754-02-9P 149754-03-0P
149786-29-8P
(prepn. of, as anti-HIV drug)

RN 149753-76-4 HCA
CN Ferrate(1-), [18-[3-[[3-(dimethylamino)propyl][(ethylamino)carbonyl]amino]-3-oxopropyl]-7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-4-2)-(9CI) (CA INDEX NAME)



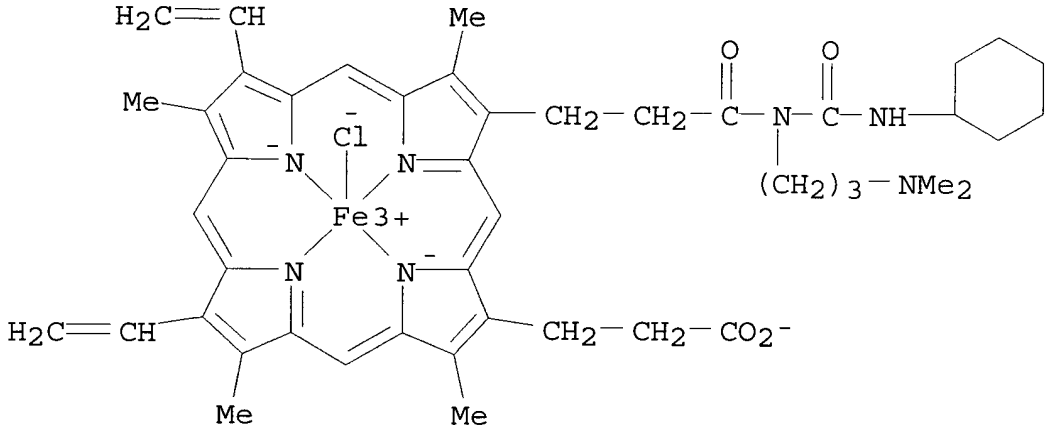
● H^+

RN 149753-78-6 HCA
CN Ferrate(1-), [18-[3-[[3-(dimethylamino)propyl][(ethylamino)carbonyl]amino]-3-oxopropyl]-8,13-diethyl-3,7,12,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-4-2)-(9CI) (CA INDEX NAME)



● H^+

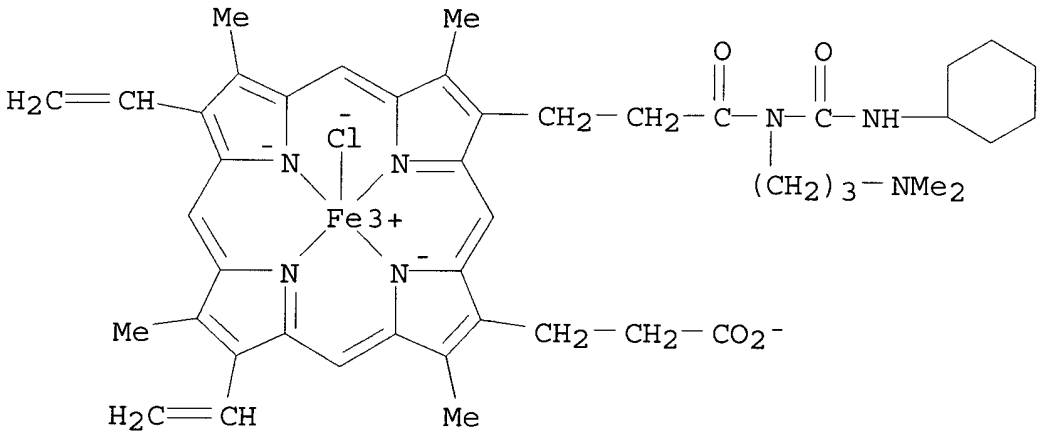
RN 149753-79-7 HCA
CN Ferrate(1-), chloro[18-[3-[[(cyclohexylamino)carbonyl][3-(dimethylamino)propyl]amino]-3-oxopropyl]-8,13-diethenyl-3,7,12,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● H^+

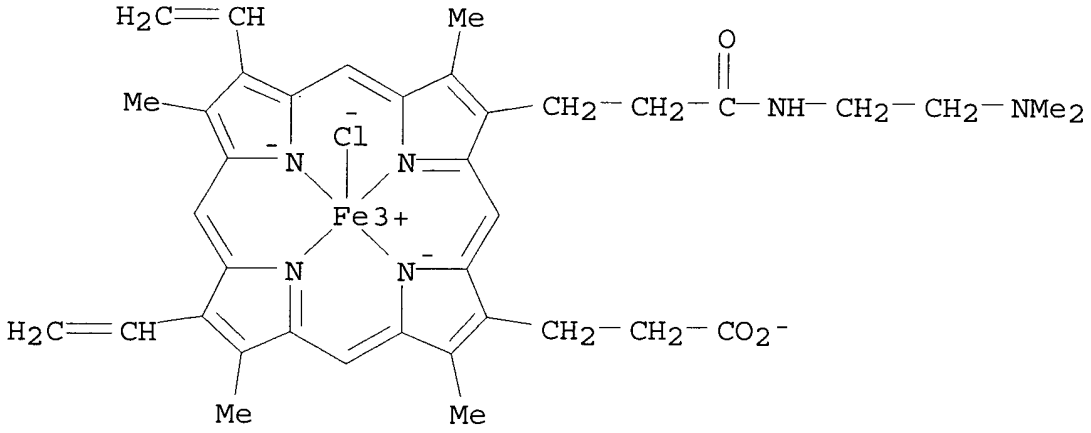
RN 149753-80-0 HCA
CN Ferrate(1-), chloro[18-[3-[[(cyclohexylamino)carbonyl][3-(dimethylamino)propyl]amino]-3-oxopropyl]-7,12-diethenyl-3,8,13,17-

tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● H^+

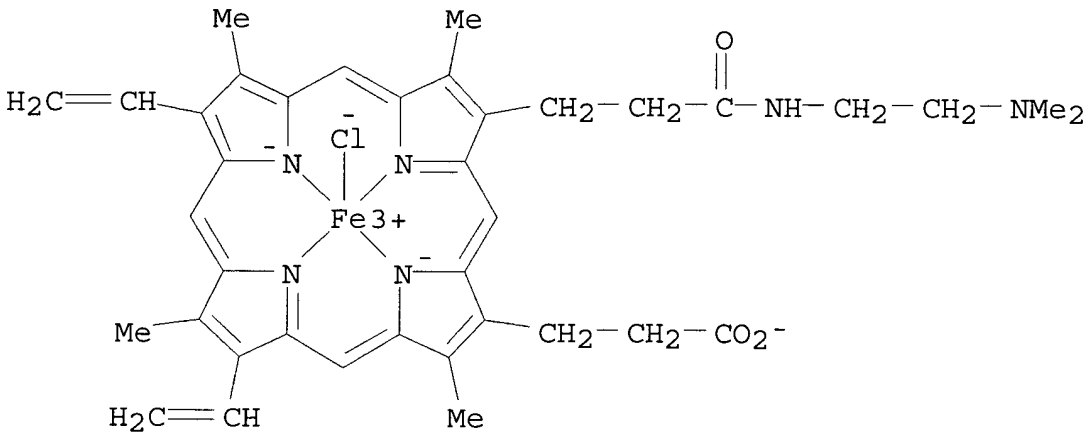
RN 149753-99-1 HCA
CN Ferrate(1-), chloro[18-[3-[[2-(dimethylamino)ethyl]amino]-3-oxopropyl]-8,13-diethenyl-3,7,12,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● H^+

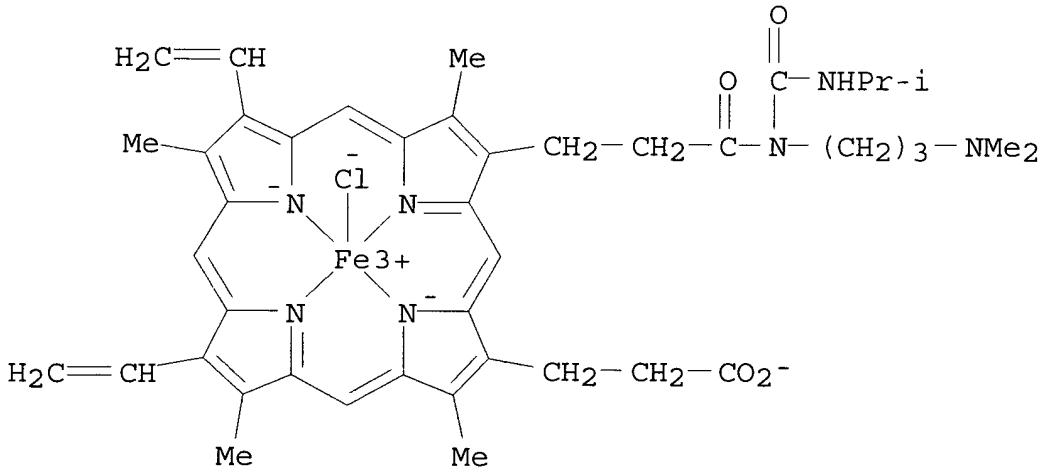
RN 149754-00-7 HCA
CN Ferrate(1-), chloro[18-[3-[[2-(dimethylamino)ethyl]amino]-3-

oxopropyl]-7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



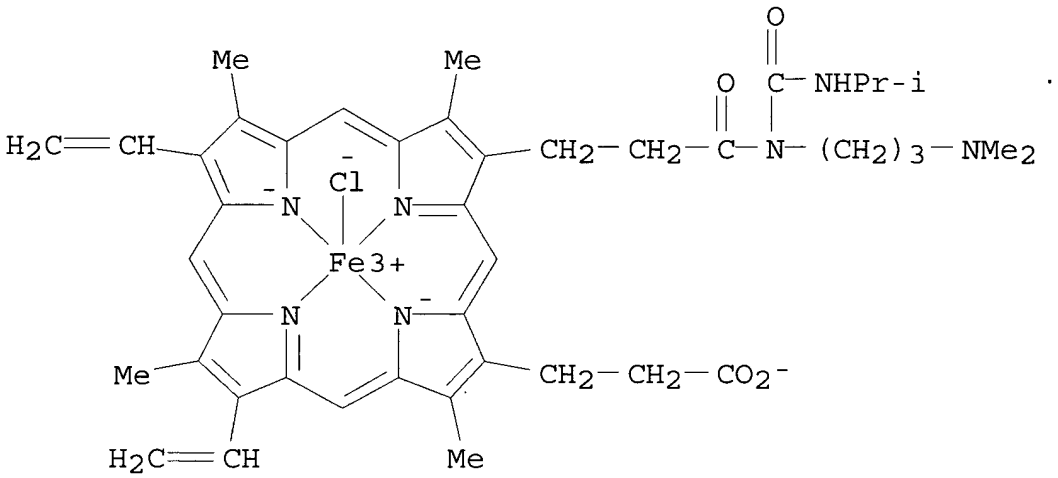
● H^+

RN 149754-01-8 HCA
CN Ferrate(1-), chloro[18-[3-[[3-(dimethylamino)propyl][[(1-methylethyl)amino]carbonyl]amino]-3-oxopropyl]-8,13-diethenyl-3,7,12,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



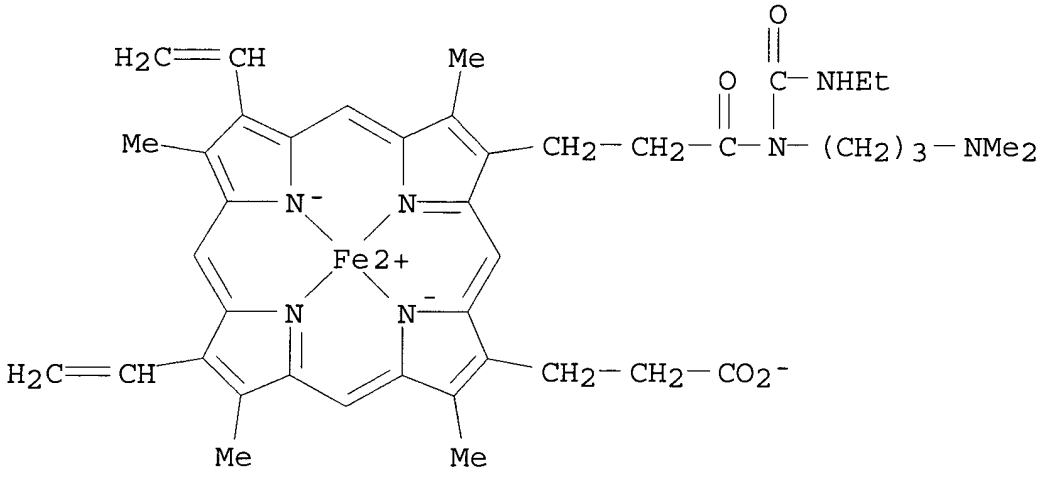
H^+

RN 149754-02-9 HCA
CN Ferrate(1-), chloro[18-[3-[[3-(dimethylamino)propyl][[(1-methylethyl)amino]carbonyl]amino]-3-oxopropyl]-7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

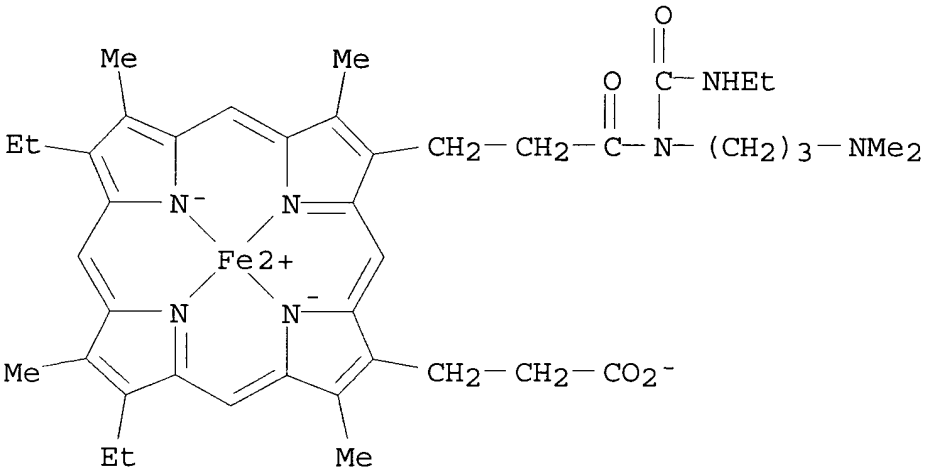


● H^+

RN 149754-03-0 HCA
CN Ferrate(1-), [18-[3-[[3-(dimethylamino)propyl][(ethylamino)carbonyl]amino]-3-oxopropyl]-8,13-diethenyl-3,7,12,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-4-2)-(9CI) (CA INDEX NAME)



RN 149786-29-8 HCA
CN Ferrate(1-), [18-[3-[[3-(dimethylamino)propyl][(ethylamino)carbonyl]amino]-3-oxopropyl]-7,12-diethyl-3,8,13,17-tetramethyl-21H,23H-porphine-2-propanoato(3-)-N21,N22,N23,N24]-, hydrogen, (SP-4-2)-(9CI) (CA INDEX NAME)

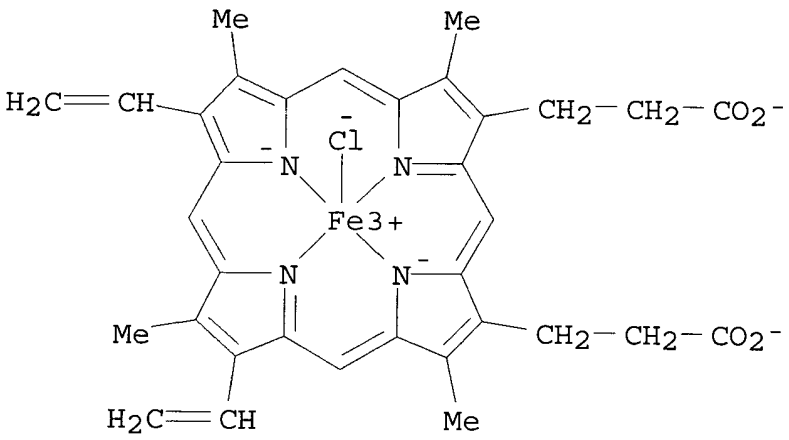


IT **16009-13-5DP**, Hemin, derivs.

(prepn. of, as anti-HIV drug, and reactions of)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

IC ICM C07D487-22
ICS C07K015-12; A61K031-40; A61K031-555; A61K037-02; A61K039-395

CC 26-7 (Biomolecules and Their Synthetic Analogs)
Section cross-reference(s): 1

IT 9004-74-4, **Polyethylene glycol** methyl ether
(esterification of, with hemin)

IT **18040-04-5P**, Iron mesoporphyrin
(prepn. and amidation of, with ethyl(diethylaminopropyl)carbodiimide)

IT 553-12-8DP, Protoporphyrin, amide with ethyl(dimethylaminopropyl)dicarbodiimide, conjugate with human serum albumin **18040-04-5DP**, Iron mesoporphyrin, amide with ethyl(dimethylaminopropyl)dicarbodiimide, conjugate with human serum albumin 26317-27-1DP, Copper chlorophyllin, amide with ethyl(dimethylaminopropyl)dicarbodiimide 26317-27-1DP, Copper chlorophyllin, amide with ethyl(dimethylaminopropyl)dicarbodiimide, conjugate with human serum albumin
(prepn. of, as anti-HIV drug)

IT **149753-76-4P** 149753-77-5P **149753-78-6P** **149753-79-7P** **149753-80-0P** **149753-99-1P** **149754-00-7P** **149754-01-8P** **149754-02-9P** **149754-03-0P** **149786-29-8P** 149859-22-3P 149859-23-4P
(prepn. of, as anti-HIV drug)

IT **16009-13-5DP**, Hemin, derivs.

(prepn. of, as anti-HIV drug, and reactions of)

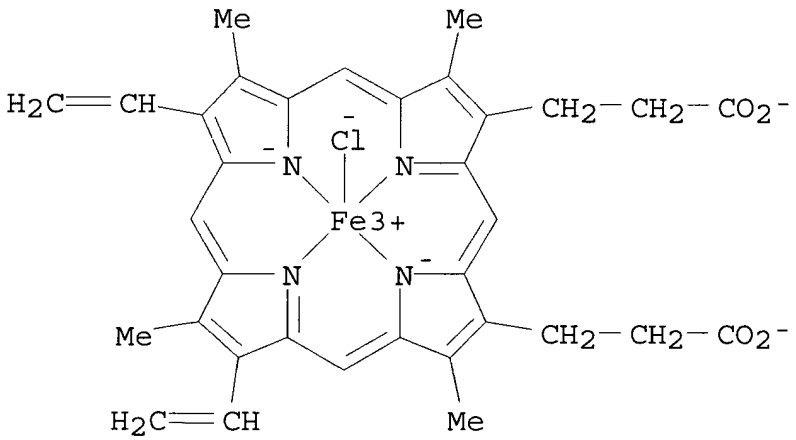
L40 ANSWER 8 OF 13 HCA COPYRIGHT 2003 ACS
115:227839 Conjugates of biomolecules with amino-containing **polyoxyalkylenes**. Kuehn, Manfred (Akademie der Wissenschaften der DDR, Germany). Ger. (East) DD 287949 A5 19910314, 4 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1989-332718 19890915.

AB Biol. active mols., e.g. enzymes, are conjugated to water-sol. **polyoxyalkylenes** contg. primary arom. amine groups. The polymers are diazotized in aq. and/or org. soln. at -10 to +40.degree. at pH 4-12 for 10 min-24 h. The reaction soln. preferably contains acid-binding compds., e.g. trialkylamines. Thus, CH3O(CH2CH2O)nC6H4NH2 was reacted with NaNO2 and then with amidosulfonic acid. The activated polymer was then conjugated to glucose oxidase in pH 9 borate buffer for 6 h at 4.degree. and 2 h at room temp. The final product had activity of 1.4 units/mg.

IT **16009-13-5D**, Hemin, complexes with imidazole
(immobilization of, on amino-contg. **polyoxyalkylene**)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



●2 H+

IC ICM C12N011-08

CC 9-14 (Biochemical Methods)
Section cross-reference(s): 7

ST biomol conjugate **polyoxyalkylene**; glucose oxidase conjugate amino polyether

IT Hemoglobins
(immobilization of, on amino-contg. **polyoxyalkylene**)

IT Animal cell
Microorganism
Organelle
Pharmaceuticals
Plant cell
Albumins, biological studies
Antibodies
Antigens
Coenzymes
Enzymes
Haptens
Hemoproteins
Hormones
Interferons
Ligands
Vitamins
(immobilization of, on amino-contg. **polyoxyalkylenes**)

IT Immobilization, biochemical
(of biomols. on amino-contg. **polyoxyalkylenes**)

IT **Polyoxyalkylenes**, compounds
(amino-contg., conjugates, with biomols., prepn. of)

IT Molecules
(biochem., immobilization of, on amino-contg. **polyoxyalkylenes**)

IT Peptides, compounds
Proteins, specific or class
(conjugates, with amino-contg. **polyoxyalkylenes**, prepn. of)

IT **Polyoxyalkylenes**, compounds
(ethers, amino-contg., conjugates with biomols., prepn. of)

IT Proteins, specific or class
(sugar-binding, conjugates, with amino-contg. **polyoxyalkylenes**, prepn. of)

IT 58-68-4, NADH 288-32-4D, Imidazole, complexes with hemin 9001-37-0, Glucose oxidase 9013-19-8, Isomerase 9014-06-6, Penicillin acylase 9027-41-2, Hydrolase 9047-61-4, Transferase 9055-15-6, Oxidoreductase **16009-13-5D**, Hemin, complexes with imidazole
(immobilization of, on amino-contg. **polyoxyalkylene**)

L40 ANSWER 9 OF 13 HCA COPYRIGHT 2003 ACS

108:109245 Preparation of a water and organic solvent-soluble modified heme having peroxidase activity and its use in peroxides determination in biological samples. Inada, Yuji; Takahashi, Katsunobu (Suntory, Ltd., Japan; Bellex Corp.). Eur. Pat. Appl. EP 232857 A2 19870819, 9 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1987-101555 19870205. PRIORITY: JP 1986-23577 19860205.

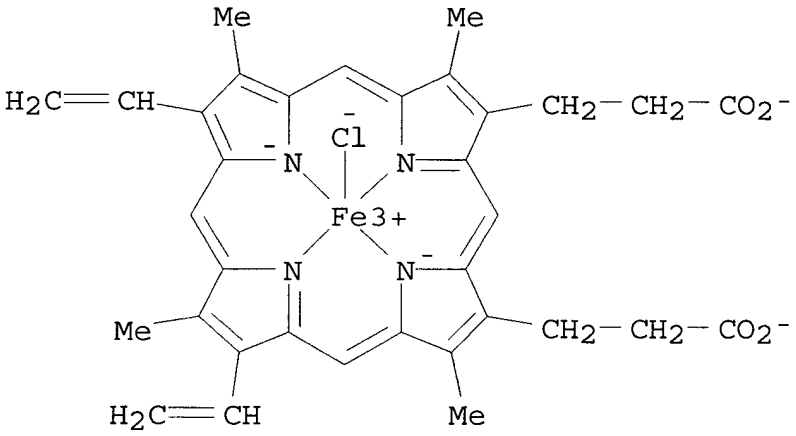
AB Modified heme is prepd. by chem. coupling **polyalkylene glycol** Me ether or an .omega.-amino deriv. thereof through carboxyl groups of the hemin mol. The modified heme is sol. in

various org. solvents and neutral aq. soln. It has peroxidase activity suitable for the quantitation of peroxides in biol. samples or cosmetics. Aminoethoxypolyethylene glycol Me ether was attached to both of the COOH groups of ferriprotoporphyrin chloride by condensation with DCC in pyridine to yield a modified heme. The peroxidase activity of the modified heme in water was 0.213 unit/mL. Enzyme activity measured in org. solvent was similar (no data).

IT **16009-13-5**
(condensation of, with ethoxypolyethylene glycol Me ether or amino deriv.)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

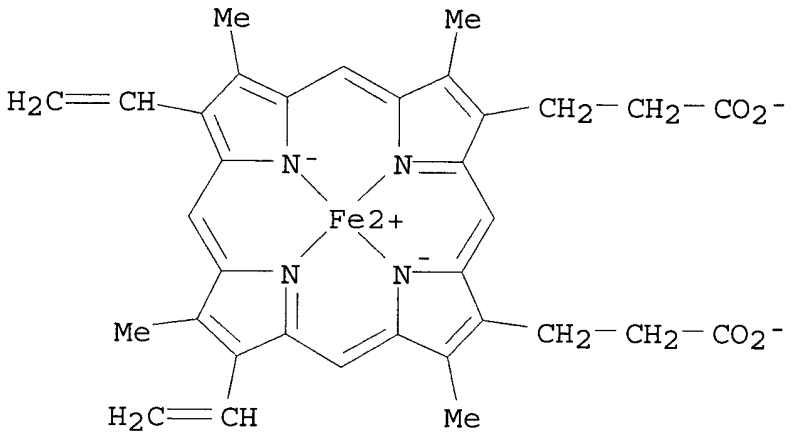


● 2 H^+

IT **14875-96-8DP**, Heme, reaction products with **polyethylene glycol** Me ether **16009-13-5DP**, reaction products with **polyethylene glycol** monomethyl ether or amino deriv.
(prepn. and peroxidase activity of)

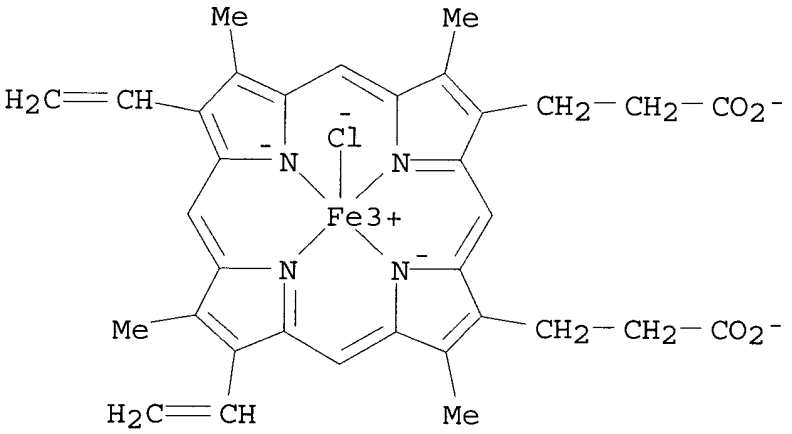
RN 14875-96-8 HCA

CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



● 2 H^+

RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)

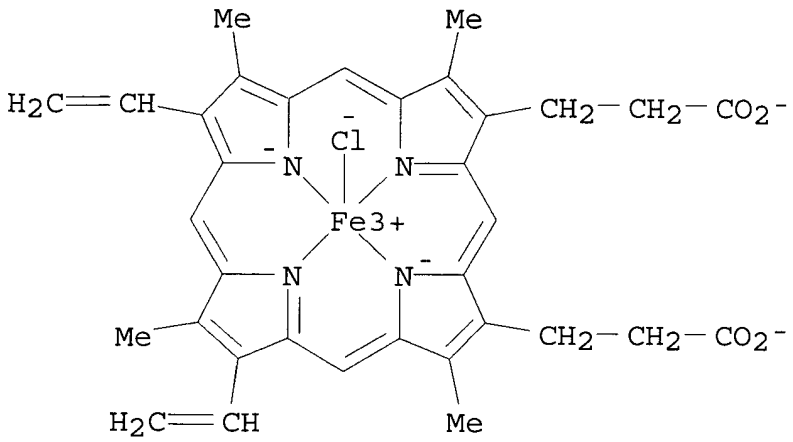


● 2 H^+

IC ICM C07D487-22
ICS G01N033-00; G01N033-02; G01N033-52
ICA C12Q001-28; G01N033-72
CC 9-14 (Biochemical Methods)

IT Hemins
(reaction products, with **polyalkylene glycol** Me ether, prepn. and peroxidase activity of)
IT **16009-13-5**
(condensation of, with ethoxypolyethylene glycol Me ether or amino deriv.)
IT 9004-74-4, **Polyethylene glycol** monomethyl ether 80506-64-5
(condensation of, with ferriprotoporphyrin chloride)
IT 9004-74-4DP, **Polyethylene glycol** monomethyl ether, reaction products with hemin **14875-96-8DP**, Heme, reaction products with **polyethylene glycol** Me ether **16009-13-5DP**, reaction products with **polyethylene glycol** monomethyl ether or amino deriv. 80506-64-5DP, reaction products with hemin
(prepn. and peroxidase activity of)

L40 ANSWER 10 OF 13 HCA COPYRIGHT 2003 ACS
105:93500 **Polyethylene glycol**-modified hemin having peroxidase activity in organic solvents. Takahashi, Katsunobu; Matsushima, Ayako; Saito, Yuji; Inada, Yuji (Lab. Biol. Chem., Tokyo Inst. Technol., Tokyo, 152, Japan). Biochemical and Biophysical Research Communications, 138(1), 283-8 (English) 1986. CODEN: BBRCA9. ISSN: 0006-291X.
AB Hemin, which has 2 COOH groups, was coupled with monometyhoxypolyethylene glycol (**PEG**) through the ester bond formed with carbodiimide. The **PEG**-modified hemin was readily sol. not only in neutral aq. soln. but also in org. solvents. Its absorption spectrum in 1,1,1-trichloroethane showed a sharp Soret band at 398 nm. The modified hemin catalyzed the peroxidn. in org. solvent and in aq. soln. using H2O2 or peroxidized linolenic acid as H acceptor and O-phenylene diamine as H donor. The activity of **PEG**-hemin in 1,1,1-trichloroethane was greater than that in an aq. soln.: K1 values in 1,1,1-trichloroethane were 2.3 .times. 103 M-1 s-1 with H2O2 and 7.0 .times. 102 M-1 s-1 with peroxidized linolenic acid, and the value in aq. soln. was 3.0 .times. 10 M-1 s-1 with H2O2.
IT **16009-13-5D**, **polyethylene glycol** derivs.
(peroxidase activity of, in org. solvents)
RN 16009-13-5 HCA
CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



● 2 H^+

CC 7-3 (Enzymes)
Section cross-reference(s): 9, 79
ST **polyethylene glycol** hemin peroxidase org solvent
IT Kinetics of peroxidation
(by **polyethylene glycol**-modified hemin)
IT 9003-99-0
(hemin **polyethylene glycol**-modified deriv. with activity of, reaction kinetics in org. solvents and aq. soln. of)
IT 9004-74-4D, hemin derivs. **16009-13-5D**, **polyethylene glycol** derivs.
(peroxidase activity of, in org. solvents)
IT 71-55-6
(reaction kinetics of peroxidase activity of **polyethylene glycol**-modified hemin in)
IT 7722-84-1, reactions 25657-09-4
(reaction of, with **polyethylene glycol** -modified hemin in trichloroethane, kinetics of)

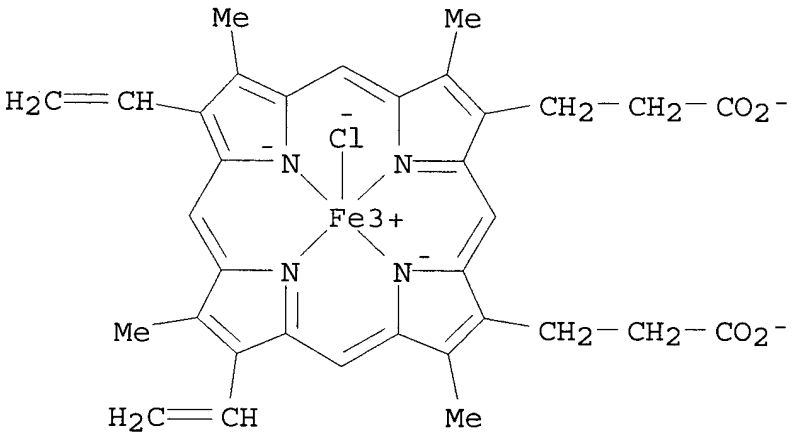
L40 ANSWER 11 OF 13 HCA COPYRIGHT 2003 ACS
98:175119 Hydroxylation of aniline by hemin-thiol compound solubilized by nonionic detergents: a model system of cytochrome P 450. Smith, Thomas D.; Gaunt, Rodney; Ruzic, Ivan (Chem. Dep., Monash Univ., Clayton, 3168, Australia). Inorganica Chimica Acta, 78(3), 103-6 (English) 1983. CODEN: ICHAA3. ISSN: 0020-1693.
AB Hemin chloride is solubilized in aq. media by nonionic detergents of the **polyethylene oxide** alkylamine type to give solns. which at neutral pH contain a dinuclear, ESR-nondetectable form within the micelles of the detergent. Addn. of .beta.-mercaptoethanol effects the formation of Fe(II)protoporphyrin

IX, and the resulting surfactant soln. of this chelate brings about the hydroxylation of aniline and provides a model system for the function of cytochrome P 450.

IT **16009-13-5D**, .beta.-mercaptoethanol complex
(aniline hydroxylation by, in nonionic surfactant micelles, as cytochrome P 450 model)

RN 16009-13-5 HCA

CN Ferrate(2-), chloro[7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-5-13)- (9CI) (CA INDEX NAME)



CC 6-3 (General Biochemistry)
Section cross-reference(s): 7

IT Amines, compounds
(soya, **ethoxylated**, micelles, hemin-thiol complex in, as cytochrome P 450 model)

IT 60-24-2D, hemin chloride complex **16009-13-5D**, .beta.-mercaptoethanol complex
(aniline hydroxylation by, in nonionic surfactant micelles, as cytochrome P 450 model)

L40 ANSWER 12 OF 13 HCA COPYRIGHT 2003 ACS

94:140627 Covalent-type polymer metal complex compositions for absorption and desorption of oxygen. (Tsuchida, Hidetoshi, Japan). Jpn. Kokai Tokkyo Koho JP 55147548 19801117 Showa, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-56468 19790509.

AB 21H,23H-Porphine (I) having o-C6H4NHCO-tert-Bu substituents at 5,10,15-positions and an o-C6H4NHCOCMe2CO2H or o-C6H4NHCO(CH2)2CO2H substituent at the 20-position is complexed with FeBr2 and treated with p-aminostyrene-**polyethylene glycol**-styrene block copolymer (II) and N-ethylimidazole (III) to prep. the title

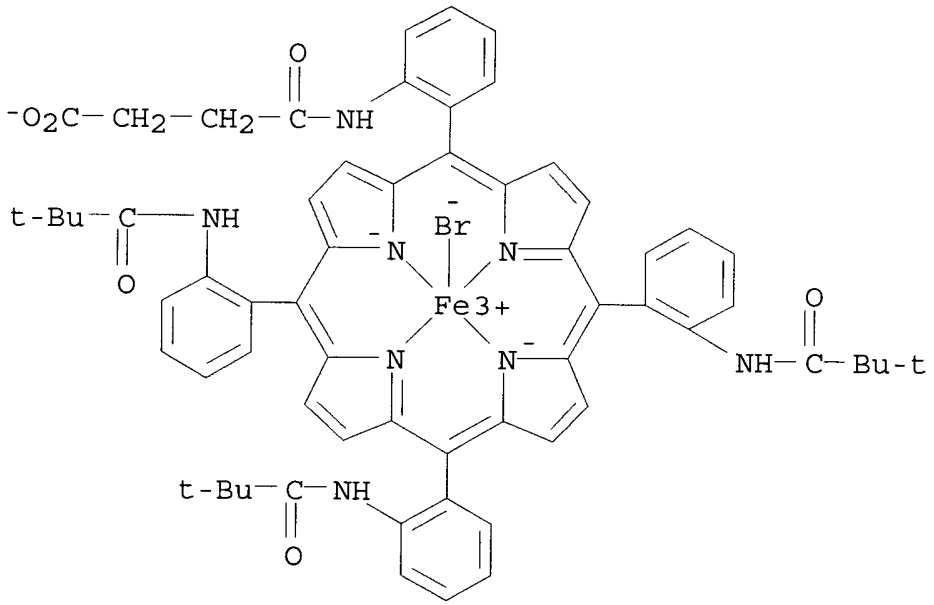
compns. sol. in water in the presence of a surfactant. Thus, FeBr2-I (20-o-C6H4NHCOCMe2CO2H)-II reaction product and III were dissolved in CH2Cl2 to concn. 2 .times. 10-5 (as the complex), and 5 .times. 10-5 mol/L, resp., mixed (3 mL) with 1 mL aq. soln. contg. 20 mg Na2S2O4 in an inert atm. for 30 min, cooled to -70.degree. to freeze the water, and sepd., and the CH2Cl2 soln. was dried in vacuo, mixed with 3 mL water to give a soln. having a max. absorption at 537 nm [Fe(II)], and contacted with O to give an absorption max. at 542 nm. The soln. was placed in an O atm. for 10 min, frozen, and degassed to return to the Fe(II) state.

IT **77130-40-6 77130-41-7D**, reaction product with aminostyrene-**polyethylene glycol**-styrene block copolymer and ethylimidazole
(absorption and desorption of oxygen by)

RN 77130-40-6 HCA

CN Ferrate(1-), bromo[4-oxo-4-[[2-[10,15,20-tris[2-[(2,2-dimethyl-1-oxopropyl)amino]phenyl]-21H,23H-porphin-5-yl]phenyl]amino]butanoato(3-)-N21,N22,N23,N24]-, hydrogen, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



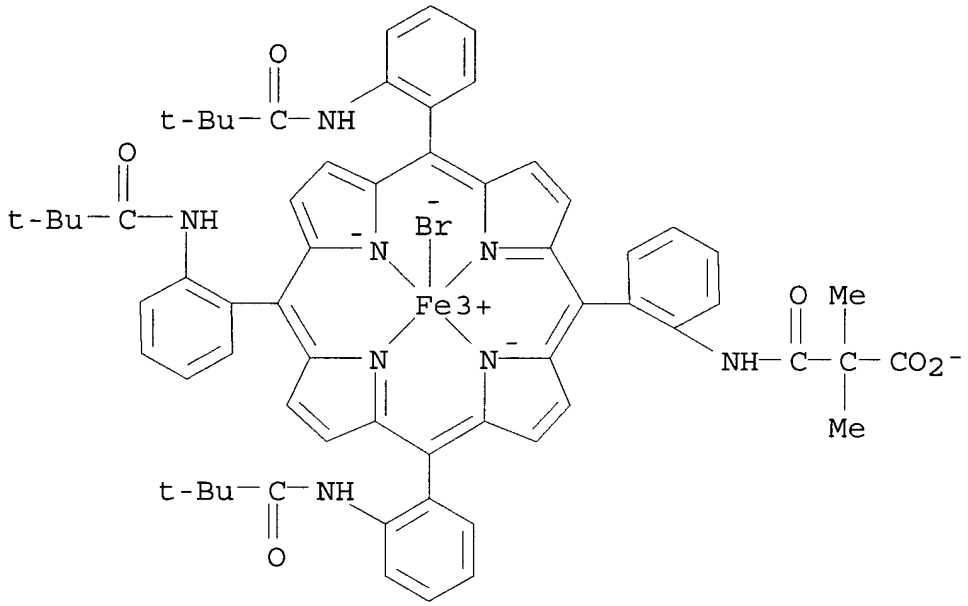
PAGE 2-A

H^+

RN 77130-41-7 HCA

CN Ferrate(1-), bromo[2,2-dimethyl-3-oxo-3-[[2-[10,15,20-tris[2-[(2,2-dimethyl-1-oxopropyl)amino]phenyl]-21H,23H-porphin-5-yl]phenyl]amino]propanoato(3-)-N21,N22,N23,N24]-, hydrogen, stereoisomer (9CI) (CA INDEX NAME)

PAGE 1-A



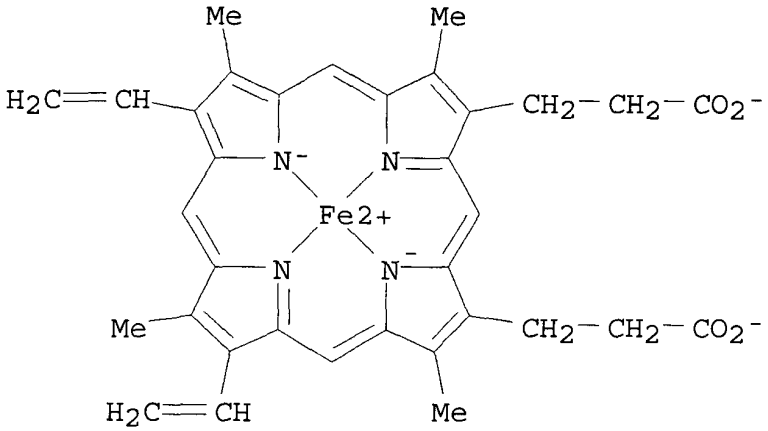
PAGE 2-A

● H^+

IC C08L081-02; C08K005-34; A61K009-10; C08G075-02
CC 36-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 63
IT Desorption
(absorption and, of oxygen, by aminostyrene-**polyethylene glycol**-styrene block copolymer-ethylimidazole-porphine-iron complex reaction product)
IT Absorption
(desorption and, of oxygen, by aminostyrene-**polyethylene glycol**-styrene block copolymer-ethylimidazole-porphine-iron complex reaction product)
IT 7098-07-9D, reaction product with aminostyrene-**polyethylene glycol**-styrene block copolymer and porphine-iron complex **77130-40-6 77130-41-7D**, reaction product with aminostyrene-**polyethylene glycol**-styrene block copolymer and ethylimidazole

(absorption and desorption of oxygen by)
IT 7782-44-7, properties
(absorption and desorption of, by aminostyrene-**polyethylene glycol**-styrene block copolymer-ethylimidazole-porphine complex reaction product)

L40 ANSWER 13 OF 13 HCA COPYRIGHT 2003 ACS
94:122310 Block copolymer metal complexes. (Tsuchida, Hidetoshi, Japan). Jpn. Kokai Tokkyo Koho JP 55144028 19801110 Showa, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1979-52308 19790427.
AB Block copolymers of hydrophilic-hydrophobic-hydrophilic block structures and tetrapyrrole-type metal complexes are covalently bonded to form copolymer metal complexes. Thus, a mixt. of 4-aminostyrene 2.5, styrene 10.5, and di-Me 4,4'-dithiobisbenzoate 2.1 g was UV irradiated 78 h in an ampul at 30.degree. to give 4.8 g telomer (I). A mixt. of 4.8 g I and 100.6 g **polyethylene glycol** (mol. wt. 4 .times. 104) in 2 L dioxane was refluxed 3 days in the presence of HCl to give 1.7 g polymer (II). A mixt. of 1.7 g II, 0.2 g protoporphyrin IX complex with FeCl3, 0.1 mL ClCO2Et, 0.1 mL Et3N, and 30 mL DMF was stirred 1 h at 0.degree., left 12 h at room temp., dissolved in CH2Cl2, filtered, and column-chromatographed (elution with DMF) to sep. II compd. with protoporphyrin IX Fe chloride complex. The soly. in water of the sepd. compd. was 1.2 g/L.
IT **14875-96-8DP**, reaction products with aminostyrene-dimethyl dithiobisbenzoate-styrene telomer **polyethylene glycol** ester
(manuf. and property of)
RN 14875-96-8 HCA
CN Ferrate(2-), [7,12-diethenyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-dipropanoato(4-)-.kappa.N21,.kappa.N22,.kappa.N23,.kappa.N24]-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



●2 H+

IC C08G081-02; C08B037-00; C08B037-06; C08F008-42
CC 35-6 (Synthetic High Polymers)
ST copolymer metal complex; iron complex protoporphyrin deriv; **polyethylene glycol** ester copolymer; aminostyrene dithiobisbenzoic acid copolymer
IT **14875-96-8DP**, reaction products with aminostyrene-dimethyl dithiobisbenzoate-styrene telomer **polyethylene glycol** ester 77030-22-9DP, reaction products with protoporphyrin IX ferric chloride complex
(manuf. and property of)

of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

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=> **file pnttext**

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FULL ESTIMATED COST	0.21	0.21

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FILE 'USPAT2' ENTERED AT 09:49:29 ON 28 MAY 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> **s Tripathy, Sukant/in**
'IN' IS NOT A VALID FIELD CODE
L1 7 TRIPATHY, SUKANT/IN

=> **s l1 and hematin#**
L2 1 L1 AND HEMATIN#

=> **d**

L2 ANSWER 1 OF 1 USPATFULL

Full Text | Citing References

AN 2002:323301 USPATFULL
TI Polymerization of aromatic monomers using derivatives of **hematin**
IN **Tripathy, Sukant**, Acton, MA, UNITED STATES
Tripathy, Susan, Acton, MA, UNITED STATES LR
Samuelson, Lynne A., Marlborough, MA, UNITED STATES
Bruno, Ferdinando F., Andover, MA, UNITED STATES
Roy, Sucharita, Tewksbury, MA, UNITED STATES
Nagarajan, Ramaswamy, Dracut, MA, UNITED STATES
Kumar, Jayant, Westford, MA, UNITED STATES
Ku, Bon-Cheol, Cambridge, MA, UNITED STATES
Lee, Soo-Hyoung, Lowell, MA, UNITED STATES
PI US 2002183470 A1 20021205
AI US 2001-994998 A1 20011127 (9)
PRAI US 2000-253109P 20001127 (60)
DT Utility
FS APPLICATION
LN.CNT 846
INCL INCLM: 526/217.000
INCLS: 536/023.100; 540/145.000
NCL NCLM: 526/217.000
NCLS: 536/023.100; 540/145.000
IC [7]

ICM: C08F002-00
ICS: C08F004-00; C07D487-22; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> **s hematin and (polyethyleneglycol# or polyethyelene glycol#)**
L3 23 HEMATIN AND (POLYETHYLENEGLYCOL# OR POLYETHYELENE GLYCOL#)

=> **s l3 and molecular weight#**
5 FILES SEARCHED...
L4 11 L3 AND MOLECULAR WEIGHT#

=> **s l4 and solution#**
L5 11 L4 AND SOLUTION#

=> **s l5 and amphipathic group#**
L6 0 L5 AND AMPHIPATHIC GROUP#

=> **d l5 1-11**

L5 ANSWER 1 OF 11 EUROPATFULL COPYRIGHT 2003 WILA
Full Text

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

AN 543689 EUROPATFULL ED 20000514 EW 199321 FS OS STA B
TIEN Compositions to simultaneously tan and dye hides and their production process.
TIDE Zusammensetzung zum gleichzeitigen Gerben und Faerben von Haeuten und Verfahren zu ihrer Herstellung.
TIFR Compositions pour le tannage et la teinture simultanes des peaux et procede pour les fabriquer.
IN Lopez Mato, Ariel, Pedro Ignacio Rivera 3635, Buenos Aires 1430, AR
PA UNITAN S.A.I.C.A., Paseo Colon 221, Buenos Aires 1399, AR
SO Wila-EPZ-1993-H21-T1a
DS R CH; R DE; R FR; R IT; R LI
PIT EPA1 EUROPAEISCHE PATENTANMELDUNG
PI EP 543689 A1 19930526
OD 19930526
AI EP 1992-402905 19921026
PRAI AR 1991-321045 19911030
IC ICM C14C003-08
ICS D06P003-32 C14C003-20 C14C003-10 D06P001-34

L5 ANSWER 2 OF 11 USPATFULL
Full Text | Citing References

AN 2003:53807 USPATFULL
TI Prostaglandin endoperoxide H synthase biosynthesis inhibitors
IN Black, Lawrence A., Libertyville, IL, United States
PA Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)
PI US 6525053 B1 20030225
AI US 1998-137403 19980820 (9)
PRAI US 1997-56652P 19970822 (60)
DT Utility
FS GRANTED
LN.CNT 2120
INCL INCLM: 514/247.000
INCLS: 514/085.000; 544/232.000; 544/238.000; 544/239.000; 544/240.000; 544/241.000
NCL NCLM: 514/247.000
NCLS: 514/085.000; 544/232.000; 544/238.000; 544/239.000; 544/240.000; 544/241.000

IC [7]
ICM: A61K031-50
ICS: C07D237-14; C07D237-16
EXF 544/239; 544/238; 544/240; 544/241; 544/232; 514/247; 514/85
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 3 OF 11 USPATFULL

Full Text | Citing References

AN 2002:283296 USPATFULL
TI Sulfonylphenylpyrazole compounds useful as COX-2 inhibitors
IN Kolasa, Teodozyj, Lake Villa, IL, United States
Patel, Meena V., Chicago, IL, United States
PA Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)
PI US 6472416 B1 20021029
AI US 2000-648202 20000825 (9)
PRAI US 1999-151247P 19990827 (60)
DT Utility
FS GRANTED
LN.CNT 2871
INCL INCLM: 514/403.000
INCLS: 514/372.000; 514/210.000; 514/212.000; 514/374.000; 514/378.000; 514/397.000; 514/406.000; 514/232.500; 514/233.200; 514/256.000; 514/252.000; 514/322.000; 514/339.000; 514/314.000; 514/333.000; 514/307.000; 540/603.000; 546/199.000; 546/187.000; 546/275.700; 546/167.000; 546/152.000; 546/148.000; 544/371.000; 544/238.000; 544/333.000; 544/117.000; 548/206.000; 548/181.000; 548/215.000; 548/240.000; 548/159.000; 548/311.700; 548/397.000; 548/305.100; 548/217.000
NCL NCLM: 514/403.000
NCLS: 514/232.500; 514/233.200; 514/252.060; 514/254.020; 514/255.050; 514/256.000; 514/307.000; 514/314.000; 514/322.000; 514/333.000; 514/339.000; 514/372.000; 514/374.000; 514/378.000; 514/397.000; 514/406.000; 540/603.000; 544/117.000; 544/238.000; 544/333.000; 544/371.000; 546/148.000; 546/152.000; 546/167.000; 546/187.000; 546/199.000; 546/275.700; 548/159.000; 548/181.000; 548/206.000; 548/215.000; 548/217.000; 548/240.000; 548/305.100; 548/311.700
IC [7]
ICM: C07D498-04
ICS: A61K031-4162
EXF 548/218; 548/360.5; 548/206; 548/181; 548/215; 548/240; 514/372; 514/374; 514/403; 514/233.2; 514/322; 514/333; 540/603; 544/117; 546/199; 546/167
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 4 OF 11 USPATFULL

Full Text | Citing References

AN 2002:78718 USPATFULL
TI Method of treating cancer
IN Heimbrook, David C., Coopersburg, PA, UNITED STATES
Yao, Siu-Long, West Windsor, NJ, UNITED STATES
PI US 2002042375 A1 20020411
AI US 2001-896245 A1 20010629 (9)
PRAI US 2000-216217P 20000705 (60)
DT Utility
FS APPLICATION
LN.CNT 5699
INCL INCLM: 514/016.000
INCLS: 514/473.000; 514/407.000; 514/380.000; 514/334.000; 514/336.000; 514/341.000; 514/326.000
NCL NCLM: 514/016.000
NCLS: 514/473.000; 514/407.000; 514/380.000; 514/334.000; 514/336.000; 514/341.000; 514/326.000

IC [7]
ICM: A61K038-08
ICS: A61K031-444; A61K031-415; A61K031-365; A61K031-454
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 5 OF 11 USPATFULL
Full Text | Citing References

AN 2002:51010 USPATFULL
TI Albumin-binding compounds that prevent nonenzymatic glycation and that may be used for treatment of glycation-related pathologies
IN Cohen, Margo P., New York, NY, United States
PA Exocell, Inc., Philadelphia, PA, United States (U.S. corporation)
PI US 6355680 B1 20020312
AI US 1999-349853 19990708 (9)
RLI Continuation-in-part of Ser. No. US 15148, now patented, Pat. No. US 6001875 Continuation-in-part of Ser. No. US 1996-603147, filed on 20 Feb 1996, now abandoned
DT Utility
FS GRANTED
LN.CNT 1358
INCL INCLM: 514/534.000
INCLS: 514/538.000; 514/570.000
NCL NCLM: 514/534.000
NCLS: 514/538.000; 514/570.000
IC [7]
ICM: A01N037-12
EXF 514/534; 514/538; 514/750
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 6 OF 11 USPATFULL
Full Text | Citing References

AN 2002:48745 USPATFULL
TI Prostaglandin endoperoxide H synthase biosynthesis inhibitors
IN Black, Lawrence A., Libertville, IL, UNITED STATES
Basha, Anwer, Lake Forest, IL, UNITED STATES
Kolasa, Teodozyj, Lake Villa, IL, UNITED STATES
Kort, Michael E., Lake Bluff, IL, UNITED STATES
Liu, Huaqing, Buffalo Grove, IL, UNITED STATES
McCarty, Catherine M., Brookline, MA, UNITED STATES
Patel, Meena, Chicago, IL, UNITED STATES
Rohde, Jeffrey J., Evanston, IL, UNITED STATES
Coghlan, Michael J., Grayslake, IL, UNITED STATES
Stewart, Andrew O., Libertyville, IL, UNITED STATES
PI US 2002028938 A1 20020307
AI US 2001-870838 A1 20010531 (9)
RLI Division of Ser. No. US 1999-427768, filed on 27 Oct 1999, PENDING Continuation-in-part of Ser. No. US 1999-261872, filed on 3 Mar 1999, ABANDONED Continuation-in-part of Ser. No. US 1998-179605, filed on 27 Oct 1998, ABANDONED Continuation-in-part of Ser. No. US 1998-129570, filed on 5 Aug 1998, ABANDONED
PRAI US 1997-56733P 19970822 (60)
DT Utility
FS APPLICATION
LN.CNT 14783
INCL INCLM: 544/238.000
INCLS: 544/239.000
NCL NCLM: 544/238.000
NCLS: 544/239.000
IC [7]
ICM: C07D043-02
ICS: C07D237-14
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 7 OF 11 USPATFULL

Full Text | Citing References

AN 2002:22482 USPATFULL
TI Prostaglandin endoperoxide H synthase biosynthesis inhibitors
IN Black, Lawrence A., Libertyville, IL, UNITED STATES
Basha, Anwer, Lake Forest, IL, UNITED STATES
Kolasa, Teodozyj, Lake Villa, IL, UNITED STATES
Kort, Michael E., Lake Bluff, IL, UNITED STATES
Liu, Huaqing, Buffalo Grove, IL, UNITED STATES
McCarty, Catherine M., Brookline, MA, UNITED STATES
Patel, Meena, Chicago, IL, UNITED STATES
Rohde, Jeffrey J., Evanston, IL, UNITED STATES
Coghlan, Michael J., Grayslake, IL, UNITED STATES
Stewart, Andrew O., Libertyville, IL, UNITED STATES
PI US 2002013318 A1 20020131
AI US 2001-871195 A1 20010531 (9)
RLI Division of Ser. No. US 1999-427768, filed on 27 Oct 1999, PENDING
Continuation-in-part of Ser. No. US 1999-261872, filed on 3 Mar 1999, ABANDONED Continuation-in-part of Ser. No. US 1998-179605, filed on 27 Oct 1998, ABANDONED Continuation-in-part of Ser. No. US 1998-129570, filed on 5 Aug 1998, ABANDONED
PRAI US 1997-56733P 19970822 (60)
DT Utility
FS APPLICATION
LN.CNT 14702
INCL INCLM: 514/248.000
INCLS: 544/240.000
NCL NCLM: 514/248.000
NCLS: 544/240.000
IC [7]
ICM: A61K031-50
ICS: C07D237-14
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 8 OF 11 USPATFULL

Full Text | Citing References

AN 2001:188725 USPATFULL
TI Albumin-binding compounds that prevent nonenzymatic glycation and that may be used for treatment of glycation-related pathologies
IN Cohen, Margo P., New York, NY, United States
PI US 2001034359 A1 20011025
US 6552077 B2 20030422
AI US 2001-817940 A1 20010327 (9)
RLI Division of Ser. No. US 1999-349853, filed on 8 Jul 1999, PENDING
Continuation-in-part of Ser. No. US 1996-603147, filed on 20 Feb 1996, ABANDONED Continuation-in-part of Ser. No. US 1998-51148, filed on 2 Apr 1998, GRANTED, Pat. No. US 5979610
PRAI WO 1997-US2622 19970218
DT Utility
FS APPLICATION
LN.CNT 1442
INCL INCLM: 514/370.000
INCLS: 514/567.000; 562/425.000
NCL NCLM: 514/534.000
NCLS: 514/538.000; 514/570.000
IC [7]
ICM: A61K031-425
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 9 OF 11 USPATFULL

Full Text | Citing References

AN 2001:185478 USPATFULL
TI Prostaglandin endoperoxide H synthase biosynthesis inhibitors
IN Black, Lawrence A., Libertyville, IL, United States
Basha, Anwer, Lake Forest, IL, United States
Kolasa, Teodozyj, Lake Villa, IL, United States
Kort, Michael E., Lake Bluff, IL, United States
Liu, Huaqing, Buffalo Grove, IL, United States
McCarty, Catherine M., Brookline, MA, United States
Patel, Meena, Chicago, IL, United States
Rohde, Jeffrey J., Evanston, IL, United States
Coghlan, Michael J., Grayslake, IL, United States
Stewart, Andrew O., Libertyville, IL, United States
PA Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)
PI US 6307047 B1 20011023
AI US 1999-427768 19991027 (9)
RLI Continuation-in-part of Ser. No. US 1999-261872, filed on 3 Mar 1999, now abandoned Continuation-in-part of Ser. No. US 1998-179605, filed on 27 Oct 1998, now abandoned Continuation-in-part of Ser. No. US 1998-129570, filed on 5 Aug 1998, now abandoned Continuation-in-part of Ser. No. US 1998-137457, filed on 20 Aug 1998, now abandoned
PRAI US 1997-56733P 19970822 (60)
DT Utility
FS GRANTED
LN.CNT 13207
INCL INCLM: 544/240.000
INCLS: 544/232.000; 544/238.000; 544/239.000; 544/241.000; 514/085.000; 514/241.000
NCL NCLM: 544/240.000
NCLS: 544/232.000; 544/238.000; 544/239.000; 544/241.000
IC [7]
ICM: C07D237-16
ICS: C07F009-6509; A61K031-50; A61K031-675
EXF 544/232; 544/238; 544/239; 544/240; 544/241; 514/85; 514/247
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 10 OF 11 USPATFULL

Full Text | Citing References

AN 86:62082 USPATFULL
TI Enzymatic high range glucose test
IN Wang, Joseph Y., Elkhart, IN, United States
PA Miles Laboratories, Inc., Elkhart, IN, United States (U.S. corporation)
PI US 4621049 19861104
AI US 1984-673183 19841119 (6)
DT Utility
FS Granted
LN.CNT 572
INCL INCLM: 435/014.000
INCLS: 427/002.000; 435/805.000
NCL NCLM: 435/014.000
NCLS: 427/002.130; 435/805.000
IC [4]
ICM: C12Q001-54
EXF 435/14; 435/25; 435/805; 436/95; 422/56; 422/57; 427/2
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 11 OF 11 USPAT2

Full Text | Citing References

AN 2001:188725 USPAT2
TI Albumin-binding compounds that prevent nonenzymatic glycation and that may be used for treatment of glycation-related pathologies

IN Cohen, Margo P., New York, NY, United States
PA Exocell, Inc., Philadelphia, PA, United States (U.S. corporation)
PI US 6552077 B2 20030422
AI US 2001-817940 20010327 (9)
RLI Division of Ser. No. US 1999-349853, filed on 8 Jul 1999, now patented, Pat. No. US 6355680 Continuation-in-part of Ser. No. US 1998-15148, filed on 29 Jan 1998, now patented, Pat. No. US 6001875 Continuation-in-part of Ser. No. US 1996-603147, filed on 20 Feb 1996, now abandoned
DT Utility
FS GRANTED
LN.CNT 1374
INCL INCLM: 514/534.000
INCLS: 514/538.000; 514/570.000
NCL NCLM: 514/534.000
NCLS: 514/538.000; 514/570.000
IC [7]
ICM: A61K031-24
EXF 514/534; 514/538; 514/570
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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